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ABSTRACT

Otitis media (OM) is an inflammation of the middle ear that is prevalent in childhood. OM can result in hearing loss, which interferes with learning. In Australia, indigenous children experience OM more often than other populations. Because teachers lack knowledge of OM and its effects on learning, affected children are often mislabeled as problem children and referred to behavior management programs. Medical and health professionals have little contact with educators and are often unaware of learning difficulties. The high turnover of rural health care and education personnel exacerbates the problems. An integrated intervention program was developed to reduce the effects of OM on the learning of Aboriginal children in Queensland. Research conducted in three remote Aboriginal communities in north Queensland yielded the following recommendations: transience at both professional and community levels must be addressed by strategies to maintain awareness of those involved in interventions at the local level; resources need to be more widely available, and users of resources must be skilled in their use; an inclusive approach is urgently needed and should be facilitated by an external agent; and communication is an essential component to reinforce the inclusive approach and validate its success. An appendix describes the resource kit of books, pamphlets, newsletters, posters, and other materials to raise community awareness of OM. (Contains 22 references.) (TD)

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QUEENSLAND HEALTH

Report:

A Whole Community Approach to Otitis Media – reducing its incidence and effects

James Cook University

Rural Education Research & Development Centre

2001

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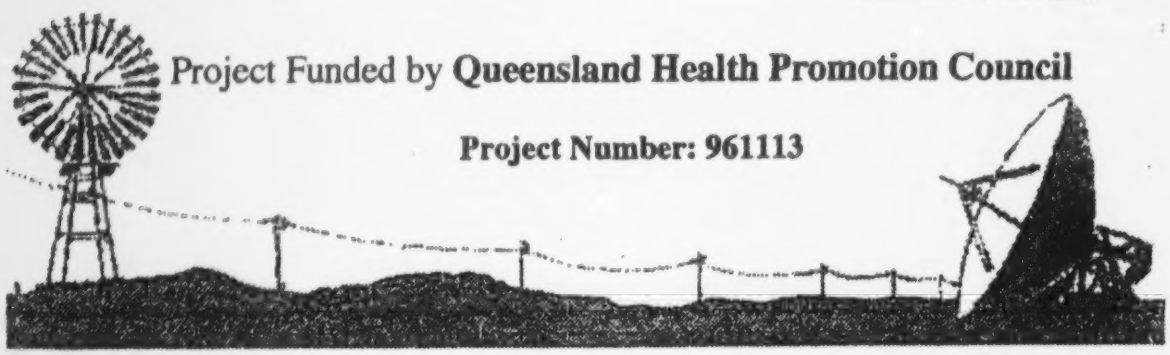

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Chapter 1: Executive Summary & Recommendations

1.1 Overview

In 1997, the Rural Education Research and Development Centre at James Cook University of North Queensland received a $70 636 grant from the Queensland Health Promotion Council to assist with the study of Otitis Media (OM) and the associated conductive hearing loss and its effects on the learning of children in indigenous communities.

The Aboriginal and Torres Strait Islander Education Support Centre in Townsville was a collaborating organisation in the research which was originally to be conducted in two remote Aboriginal communities in North Queensland - Urandangi and Palm Island (Bwgcolman). The target communities were subsequently increased to three (23rd September 1997) by the addition of Camooweal.

The goals of the project were to:

- reduce the incidence and effects of Otitis Media (OM) in the target communities;
- improve the learning outcomes of children who have suffered/are suffering OM; and
- embed appropriate practices in local communities by repeat annual visits.

In general terms, Otitis Media (OM) refers to inflammation of the middle ear which may or may not present with ear ache, runny ears, and 'snotty' noses. Ear infections are prevalent in childhood with a significant percentage of children experiencing one or more episodes by the age of three. Not so commonly known is that ear infections can result in hearing loss - something that has the potential of having life-long ramifications to one degree or another for the child. In some Aboriginal communities, the percentage of children* who have ear infections and some form of resultant conductive hearing loss may approach 100%.

Conductive hearing loss associated with bouts of OM, can result in two auditory changes. One is the overall reduction in hearing ability (conductive hearing loss), and the other is a recurring hearing loss associated with the peaks of OM infection (fluctuating conductive hearing loss). With such interruptions to hearing, one of the main platforms from which other learning experiences build, gaps in learning can occur.

For the first invaluable years of learning, these children with fluctuating conductive hearing loss experience ongoing interruptions to their language development. Areas affected can involve language (including speech, reading and writing), behaviour, balance, socialisation, communication and processing skills.

Sadly, because teaching professionals may lack knowledge of the condition and especially of its effects on learning, these children, who may also present in their early years of formal schooling with masking behaviours, run a high risk of being mislabelled problem children. There is a tendency towards reactive, temporary band-aiding measures, most commonly embedded in behaviour management programs without the recognition that there is a recurring medical condition that may be the root cause.

Compounding this problem, the other professionals - medical and health predominantly - with whom the child might also have contact, often work in isolation not only from each other but entirely removed from teaching professionals. These health professionals therefore respond to the child's needs only within the confines their individual disciplines. They are not confronted by the learning difficulties - only the health problem.

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* To illustrate the severity of the problem across the population, at Doomagee, only four percent (4%) of the adult population has normal hearing (A Carroll, Pers. Comm., March 2001)

To address these shortcomings, it seemed entirely supportable that some method of integrating the responses of the separate disciplines would have positive results on the incidence and effects of Otitis Media on indigenous children.

The project *'A Whole Community Approach to Otitis Media - reducing its incidence and effects'* was devised to attempt such integration.

In brief, the project set out to raise teacher and student awareness of the problem of OM, to develop strategies and materials to reduce the effects of hearing loss in the students; and to encourage students to incorporate these strategies into their daily lives.

At the same time, the wider community including parents and health workers would be targeted in a concentrated awareness raising campaign, supported by annual reviews, that would embed the knowledge of the effects of OM on learning in that wider community, and integrate strategies to limit those effects into the consideration of parents and other workers - particularly health workers - with whom students and teachers have contact.

This final report looks back at the project more than a year after the project had run its course in the field. This gives the report a particular poignancy, for it was only after involvement ceased that an objective assessment of the project and its potential could be made.

It should be noted that an independent assessment of the outcomes of the project has also been completed and is available from RERDC. The findings of that assessment are broadly in line with the findings in this report (Store, 2001).

A series of recommendations have also been drawn from the work in this project. They are listed below and discussed more fully in Chapter 4 of this report.

1.2 Summary of findings and recommendations:

Recommendation 1: Transience at both professional and community levels needs to be addressed by strategies to maintain awareness of those involved in interventions at the local level

(a)
Incoming staff need to be fully briefed on the situation into which they have been transferred. Processes should be put in place to ensure such summaries are prepared as a matter of course by the departing people and made available to incoming staff members.

(b)
The skills needed at a premium in that new posting need to be updated before the transferee arrives at the new place.

(c)
Training of community members in the basic skills needed to address the more pressing concerns in a community, should aim at providing a pool of trained support workers, rather than just enough to satisfy a situation or action at one point in time.

(d)
To aid in the awareness training, it is recommended that the kit produced as part of this project be more widely available to communities and agencies that have concerns over OM and its effects.

Recommendation 2: Resources need to be more widely available and users of these resources need to be skilled in their use

While mention has been made of making the kit available, the provision and use of other resources such as the Whole Field Amplification System and hearing aids must be given attention.

Those who are to use, or be involved in the use of these resources, whether teachers, other agency personnel, community members, students and parents need to have adequate training in their use.

Recommendation 3: Facilitation of the inclusive approach by an external agent is necessary

(a)
In planning a project or intervention that has a breadth that places it beyond the capacity of any single organisation to address, the provision of external facilitation that is effectively able to cross the boundaries between agencies is a key issue in creating inter-agency and cross-discipline collaboration.

(b)
The facilitation needs to engender good motivation.

(c)
Further, the facilitation process should incorporate networks that link into more senior decision-makers than those only at the local level in the various agencies.

(d)
The facilitator must use these networks for communication back to senior decision-makers.

Recommendation 4: An inclusive approach needs to be adopted as a matter of urgency

(a)
The inclusive approach taken in this project involving teachers, students, parents, health workers and community, and incorporating a range of strategies from low key to highly technical, generated positive outcomes which indicate that the processes need to be promulgated and given wider support.

(b)
A number of individual initiatives based in various disciplines are already in place. They need integration, rationalisation, and synchronisation to reduce the potential for unnecessary repetition and duplication of effort in the field.

(c)
As Otitis Media can have such profound effects on the ability of a child to learn, the implications of this reduction in learning ability for reducing the effectiveness of interventions that target other community problems - for example, diabetes and Aids in the area of health, or literacy and numeracy in education - needs to be recognised.

Recommendation 5: Communication is an essential component to reinforce the inclusive approach and to validate its success.

(a)
Information in the domain of individual agencies has to be made available to all involved in the inclusive intervention.

(b)
Periodic recontact with people at the target sites must be a feature of the intervention.

(c)
Communication with senior decision-makers is essential to maintain the legitimacy of the project.

(d)
Attention should be paid to the use of media, particularly print media, in reporting the success of a project at a local level. Media with a wider circulation than just the local area should be targeted.

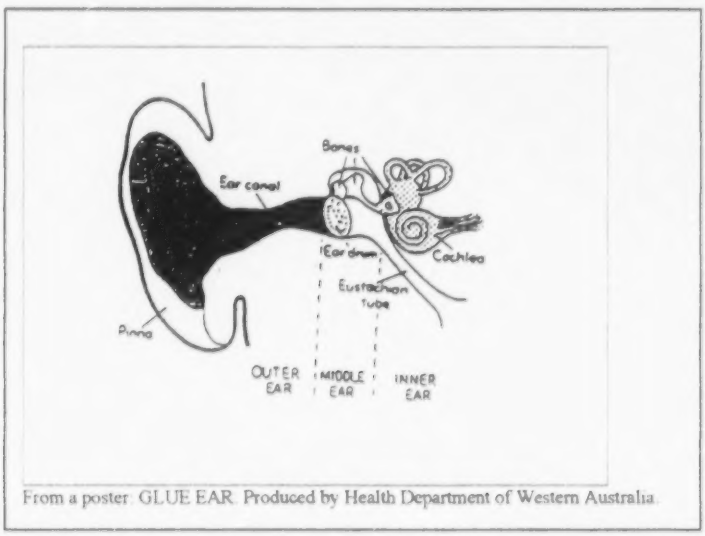
Chapter 2: Otitis Media

This chapter outlines the main theoretical considerations which underpin the medical understanding of otitis media as a health problem and the educational understanding of the development of children as learners. This juxtaposition will emphasise the need for each discipline to understand the relevant points of the other in dealing with otitis media.

2.1 Understanding otitis media

2.1.1 Sound

Sound is a vibration transmitted through a medium - usually the air. When these vibrations reach the ear, they are transferred via the ear canal and the bones of the middle ear to the cochlea where the pattern of vibrations is changed into neural impulses which are transmitted to the auditory cortex of the brain and interpreted (Ashman and Elkins, 1990, p.19).



From a poster: GLUE EAR. Produced by Health Department of Western Australia.

Outer ear is the collection point for sounds to be transferred on to the middle ear

Middle ear houses the ear drum and small bones which collect sounds and passes them through to the inner ear.

Inner ear finally collects all the sounds received and transforms them into electrical signals which the brain interprets.

The process of sound input to enable distinguishable, appropriate, purposeful output can be viewed as an interlocking chain process. Basically, any interruption at any one point along this continuum results in a hearing impairment and a confusion of messages for the individual.

Identifying the specific area or interruption along the ear canal enables the diagnostician to label the hearing impairment and thus take appropriate measures for intervention. Traditionally, hearing impairments have been divided into three broad categories: conductive, sensori-neural, and central. This report deals with conductive hearing impairment resulting from otitis media.

2.1.2 Otitis Media

Otitis media is the general term referring to inflammation in the middle ear. It may include a wide range of conditions including blockages of the eustachian tubes, fluid in the middle ear, an object in the ear or swelling of the ear canal (the latter is referred to as *OM externia*).

The condition is termed *Acute OM* when the diagnosis is based on an active infection of recent onset, characterised by inflammation of the ear drum, accompanied by pain and fever. Sometimes the air in the middle ear is replaced by a thick glue like fluid which is often referred to as 'glue ear' or *OM with effusion*. The fluid, of similar appearance to thick custard, may be present for a short time or persist for many months. There appears to be little or no pain associated with OM with effusion but the effect of this condition for the child is similar to having earplugs in the ears.

Sometimes there is no indication of this form of the condition until the ear drum perforates allowing the pressure in the middle ear to be relieved of the glug. *Chronic suppurative OM* refers to the perforation of the ear drum and subsequent discharge.

Otitis media falls into the category of afflictions that result in conductive hearing loss. One common effect, readily understood in view of the above description, is some degree of 'hearing impairment'.

While Casey (1994) defines hearing impairment to include both deafness and partial hearing, it is on the latter that this project focused. Deafness is far easier to recognise and there are known strategies to deal with the affliction. The same cannot be said for partial and especially intermittent partial hearing loss.

The debilitating effects of hearing loss, to whatever degree, are twofold: restriction of sensory input from the environment; and an interference with the acquisition and utilisation of an effective means of communication (Casey, 1994, p.146).

OM is thus a medical condition with the potential to impair foundational learning.

2.1.3 Hearing Impairment – the significance of fluctuating hearing loss

The incidence of conductive hearing impairment resulting from otitis media can occur from birth onwards. It may occur frequently, yet intermittently. Thus the condition is tagged as 'fluctuating'. Fluctuating in its most simple form refers to the coming and going aspect of conductive hearing impairment.

Note that the degree of fluctuation can also vary - from mild to severe when a child has a cold, or severe to moderate after an eardrum has actually perforated.

Hearing loss does to speech what frosted glass does to a face and the significance of 'fluctuating' compounds the problems of auditory assembling of sounds into meaningful patterns.

The throw-away line *'You can hear when you want to!'* has a lot more meaning for the child with OM. Unfortunately, the insidious nature of OM means that the child truly can hear at some times but not at others. The mistake is to assume the child has control over the impairment - that it is wilful, not physical.

This fluctuating characteristic is perhaps the most significant impediment to the child's development. The variation in listening conditions, resulting from the fluctuating nature of the hearing impairment, has the ability to confuse the learner, specifically in the processes used by the child to construct meaning, an all-important stage in language acquisition and learning.

For example, a child may hear part of a word or a sentence and, not having gained processing skills of auditory discrimination, is not able to decipher the message. Unlike adults, children do not have the knowledge and skills to piece together an imperfectly received message - it is an acquired skill. Interestingly, (and crucially for those in the classroom who experience adverse effects attributed to conductive hearing loss), the significant point made by all theorists is the emphasis on the functional

nature of hearing and its effect on language acquisition. The functional nature of hearing, impaired by OM, has immediate implications for those teaching and learning in the classroom.

Compounding this, the child who suffers from recurring bouts of fluctuating, conductive hearing loss may experience problems with balance related to the vestibular apparatus (balance organ) which is defined by Schein and Delk, (1974) as "the portion of the inner ear concerned with the body's position in space". Speculation, more recently supported by research, indicates that the changes in the middle ear may indeed affect the balance organ, creating a false sensation of movement in children with conductive hearing loss. Children with conductive hearing loss are frequently described as walking disasters, with poor co-ordination, who have difficulty performing simple everyday tasks, and are often reported as doing poorly in gross motor perceptual programs (Masters & Marsh, 1978, cited in report 'Fluctuating Conductive Hearing Loss In Young Children: Incidence and Effects).

2.2 *Understanding child development - language and learning acquisition.*

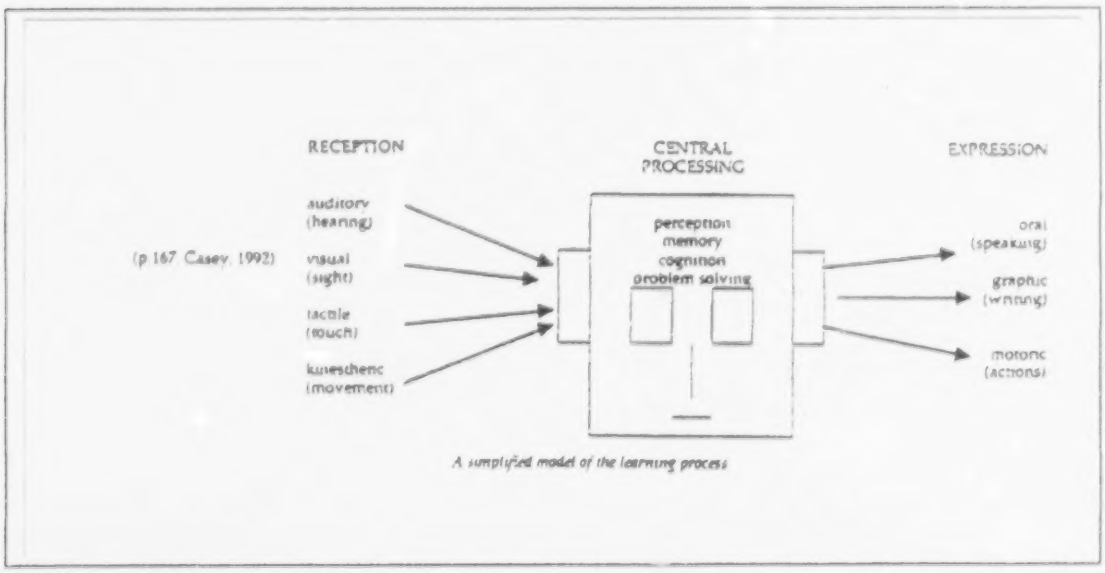
2.2.1 The senses

This is probably the most significant area for understanding on the part of the teacher. The linkage between growth and development, listening, language acquisition and communication is the basis for learning. When children are born, they undertake a journey to acquire the skills to decipher the diversity of messages received, so that they can develop competencies to utilise language with the purpose of communication.

The journey of learning, including language acquisition, is dependent on the vital role of the five senses. How the world is perceived from the moment of birth, is determined by the utilisation, in isolation or in combination, of the senses. Hearing and seeing are the most valuable of these senses. They provide the platform for foundational learning.

In everyday situations, within a formal or informal context, the child receives information primarily through the auditory and visual senses. If by chance one or both of these modalities are impaired, other dependent aspects of learning will be affected. (Casey, 1994, p.167)

The crucial role of the senses cannot be sufficiently stressed. If one of these senses is faulty, on a permanent or an intermittent basis, as with fluctuating conductive hearing loss, then the perception of the world by any child with this condition is quite different from that of others.



A simplified model of the learning process

Consistency is also essential in establishing a foundational learning platform. Repetition of the input, with appropriate responses, will encourage and stimulate further output. However, if there are interruptions, regular or irregular, the foundation for further scaffolding will be shaky, leaving gaps the child can no longer fill. Consequently, the variations attributable to inconsistency cause further confusion in the development of hearing processes which in turn disturb the strategies by which the child learns to construct meaning. The result of the disturbance of these processes may show as ultimate frustration, mood swings and antisocial behaviours by the child. Classroom judgement tends to see this as behavioural problems, not medically related.

Much of the damage from middle ear infections such as OM occurs between birth and three years, the most critical time for initial language acquisition. (McConnell, 1973, p.354).

It is a natural progression for all children to babble at an early age, experimenting with meaningless sounds and building on their spoken language by selective imitation of sounds that elicit positive responses from those closest to them. Children who have recurrent fluctuating hearing loss find there are times when they are unable to hear those sounds necessary for appropriate responses and upon which they can build appropriate oral communication. From day one, these children are faced with failure. They may present, even at kindergarten, as 'difficult'.

2.2.2 The effects of fluctuating conductive hearing loss on child development

Fluctuating conductive hearing loss cannot be viewed solely as a pathological condition of the middle ear. It needs to be considered as a 'hidden barrier' that complicates life for the child as a learner. This issue is compounded by the fact that many children have recurring bouts of the condition with consequent overt and covert effects on learning.

A major concern associated with the condition of OM, is that it may be present without any obvious clinical signs, thus hindering early detection. When there are obvious signs such as running pus (glue ear), the condition is easily detectable but, in the meantime, many valuable learning opportunities for the child may have slipped by.

All the variables such as cause, type, age of onset and degree of loss combine to produce a unique impact on a child's personal, social, intellectual and educational development (Ashman and Elkins, 1994, p.277). Not only is there a detrimental effect on the early language acquisition, there is also a domino effect. In the development of language, there is a natural sequence of receiving (input) and expressing (output), and each higher language skill is dependent upon the one preceding it (McConnell, 1985). If there is a failure of an early input, the sequence is disrupted further down the developmental line.

It is the outcomes of this domino effect caused by fluctuating conductive hearing loss, that is one of the most serious hidden barriers to learning for the Aboriginal child. Not only does the recurring fluctuating silent nature of the condition cause interference with academic achievement, it also has a disproportionably debilitating effect on a child facing cross-cultural challenges. This affects the 'whole' child with respect to its social, cognitive, physical, emotional and spiritual growth.

And while the research identifies behaviour and academic achievement (Silva, Chalmers and Stewart, 1986; Scaldwell, 1989; Lowell, 1993) as major concerns, there have also been significant differences detected between students with and without a history of Otitis Media on measures of phonology (Needleman, 1977), syntactic and semantic aspects of language development (Teele et al., 1990, Friel-Patti and Finitzo, 1992), attention (Feagans, 1986), and auditory processing (Gravel and Wallace, 1992).

The effects of fluctuating conductive hearing loss, often subtle in nature and masquerading as a variety of behaviour manifestations, have direct implications for the education of the whole child. For example, these children may present as having learning difficulties, behaving inappropriately by being rude, arrogant, easily distracted or withdrawn. They are seen as having failed to develop appropriate social skills and are therefore behaviour management problems. Yet these behaviours are now recognised by health workers as a means for such children to express frustration due to an inability to

maximise communications within their environment. They directly relate to the medical condition of fluctuating hearing loss.

Children with mild to moderate hearing loss often go undiagnosed until the child reaches school, where academic performance might indicate a problem exists. Even then, an accurate assessment is not automatic, perhaps due to the fluctuating nature of the condition, as many of the symptoms attributed to hearing loss can also be attributed to other causes (Kirk and Gallagher, 1993).

2.2.3 Fluctuating hearing loss and Classroom Learning

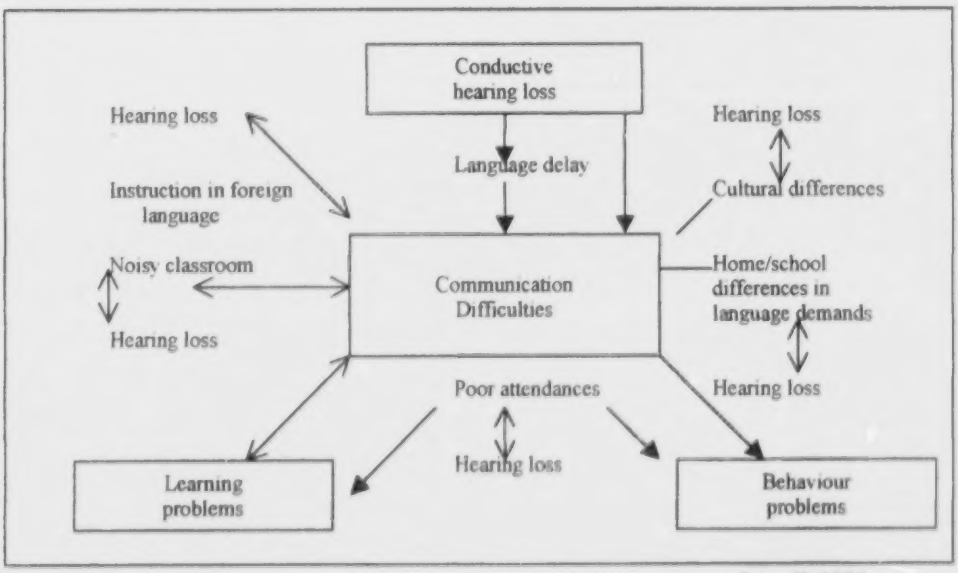
Audition is one of the key pathways to cognitive, linguistic, and social development, mainly through the processes of listening and communication. Since these two processes are foundational to the learning process, it is extremely important in school settings to focus on the systematic teaching of good listening skills, especially to high risk groups such as those considered in this project.

Listening skills need to be the centre of focus within the teaching/learning environment. These include acuity and sound association, selective auditory attention and discrimination, auditory memory and sequencing, and auditory closure. In association with these, concept and language development need to be addressed.

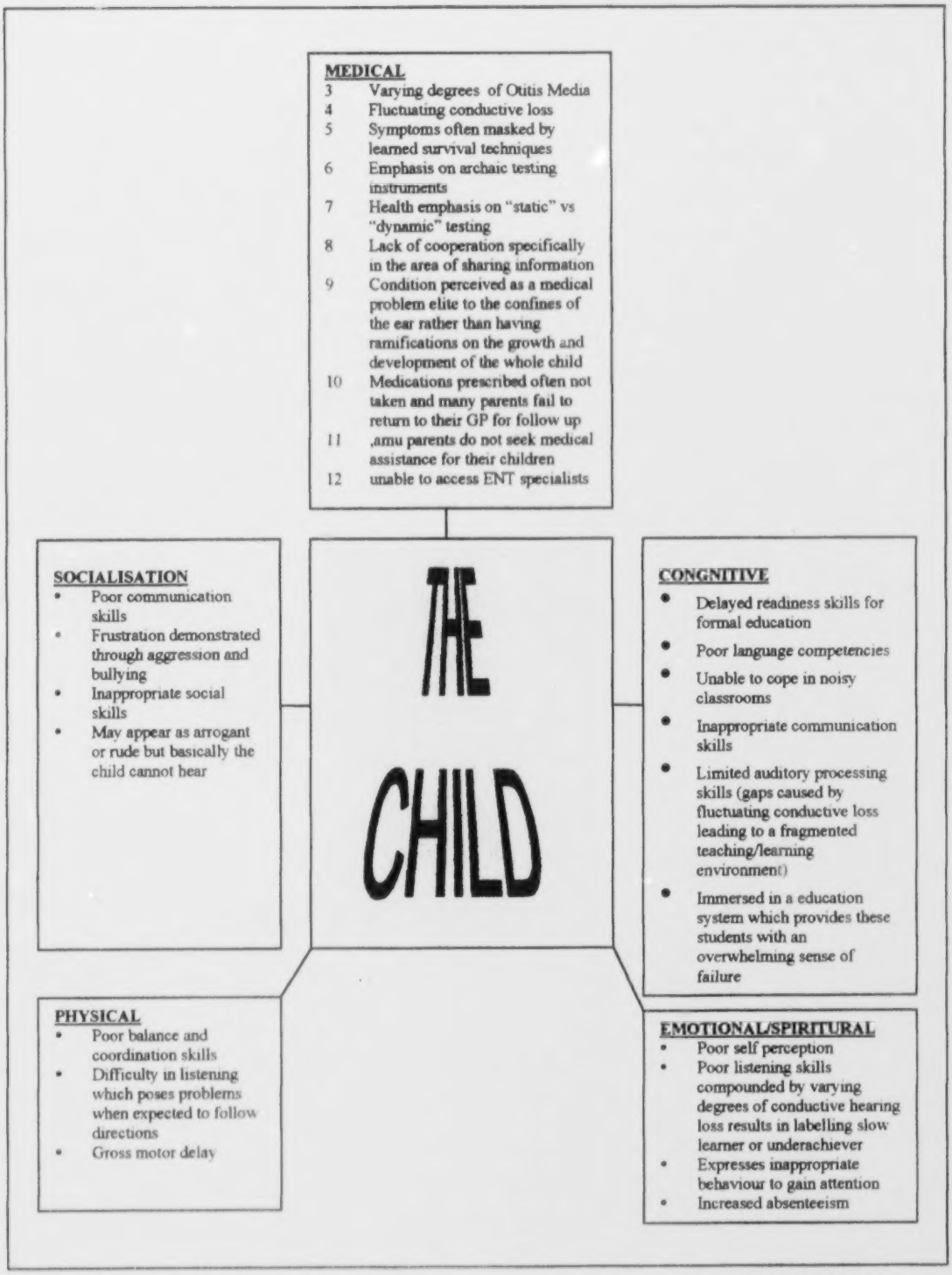
Good listening skills are fundamental to the development of verbal language acquisition and communication. In addition, it needs to be stressed that effective listening is essential to the successful undertaking of many normal daily activities which require children to receive, attend to, discriminate, sort, interpret, and respond physically or verbally to auditory stimuli.

To a child with the condition, schools could be seen as basically a place of failure. If children cannot hear, they cannot listen, and if no alternative strategies are employed, learning is greatly reduced. Therefore the OM sufferers are immersed in a system which overtly and covertly tells them they cannot achieve. These children all too often then feel bad about themselves, develop low self concepts, and have difficulty relating to others.

Both Ruddell (1992) and Lowell (1993) have used charts to depict the effects of OM on the child:



Lowell, 1993.


MEDICAL
3 Varying degrees of Otitis Media
4 Fluctuating conductive loss
5 Symptoms often masked by learned survival techniques
6 Emphasis on archaic testing instruments
7 Health emphasis on "static" vs "dynamic" testing
8 Lack of cooperation specifically in the area of sharing information
9 Condition perceived as a medical problem elite to the confines of the ear rather than having ramifications on the growth and development of the whole child
10 Medications prescribed often not taken and many parents fail to return to their GP for follow up
11 ,amu parents do not seek medical assistance for their children
12 unable to access ENT specialists
SOCIALISATION
• Poor communication skills
• Frustration demonstrated through aggression and bullying
• Inappropriate social skills
• May appear as arrogant or rude but basically the child cannot hear
THE CHILD
CONGNITIVE
• Delayed readiness skills for formal education
• Poor language competencies
• Unable to cope in noisy classrooms
• Inappropriate communication skills
• Limited auditory processing skills (gaps caused by fluctuating conductive loss leading to a fragmented teaching/learning environment)
• Immersed in a education system which provides these students with an overwhelming sense of failure
PHYSICAL
• Poor balance and coordination skills
• Difficulty in listening which poses problems when expected to follow directions
• Gross motor delay
EMOTIONAL/SPIRITURAL
• Poor self perception
• Poor listening skills compounded by varying degrees of conductive hearing loss results in labelling slow learner or underachiever
• Expresses inappropriate behaviour to gain attention
• Increased absenteeism

(Ruddell, 1992)

Chapter 3: The Intervention

3.1 Understanding some existing interventions

The problems for children and their normal development, which arise from fluctuating conductive hearing loss, have not been entirely ignored. Several methods have been developed within the different disciplines which deal with the condition and its effects. Two major approaches to intervening in the condition can be recognised: the medical model and the education system's behaviour management model.

3.1.1 Medical model

The first intervention can be labelled a medical (or pathological) model. At its simplest, this model of intervention transposes directly to indigenous communities what occurs in response to a health issue in mainstream communities.

The model has three core phases -

present with a condition → treatment → cure effected or re-present for further treatment.

This model assumes that presentation and re-presentation will occur unproblematically. However, responsibility for presentation is in the hands of others outside the control of the medical model - in particular, parents or care-givers of the child. These others may not have the knowledge to decide when or why to present. And in geographically isolated areas, may not even have the luxury of someone to present to.

This limitation of the medical model has been recognised to some extent by the provision of health teams that can diagnose hearing conditions and make the required referrals.

However, while well-intentioned, the hearing test approach to OM using diagnosticians visiting geographically isolated communities in a sporadic fashion, raises concerns over timeliness of diagnosis considering the fluctuating nature of the condition. Some children may not have overt symptoms at the time of the visit so will not be seen or tested since their primary care-givers have not known they needed to present these children for check-ups.

Even more concerning is evidence that results of hearing tests may not be passed on to those who will actuate the presentation process. Certainly, teachers at the communities involved in this project rarely had access to hearing test reports, something that the coordinator of this project also was unable to access. Moreover, this restriction of access to information is not limited to isolated communities - staff at Kulkathil Murri School in the heart of Brisbane reported a similar situation. (Pers.Comm., August, 2000).

Finally, to add to its limitations, the medical model has nothing to contribute directly to overcome the consequences of OM for the affected children's learning.

3.1.2 Behaviour management model

Children with a history of OM can present at school with a number of behavioural strategies that are either designed to mask problems associated with OM or result from an inability to cope with new demands, especially those imposed by schooling. Development of appropriate social skills may have been impeded.

Children with a history of Otitis Media are often referred to as being overactive, inattentive, easily distracted, socially withdrawn and displaying inappropriate response behaviours. The child who exhibits these symptoms becomes labelled a 'behaviour problem' and the action steps in the 'Behaviour Management Policy' of the school are triggered. Unfortunately, seldom is a health referral mentioned in these policies.

The Behaviour Management Policies operating in most schools, have a number of common characteristics. Firstly, responses to a situation are graduated into a sequence of steps or 'levels'. In Queensland schools, the generic pattern consists of six levels of response. These commonly begin with exclusion from 'fun activities', and work upwards in steps through degrees of severity, to exclusion from a class, to contact with parents and withdrawal to a separate supervised area. It is not generally until Level 4 (gross misbehaviour) that outside agencies might be contacted, and then usually for 'counselling' for the misbehaviour. It is also from this level that suspension from school is considered, an option that is increasingly invoked until permanent exclusion results at the severest level of school response to behavioural problems.

The appropriateness of this form of behaviour management for the student with OM has to be questioned. Withdrawal, as a penalty from a situation that the student already finds difficult to cope with, is hardly an incentive to change behaviour, and the lateness of referral to outside agencies for assistance is also a cause for concern.

3.1.3 Professional silos

It hardly needs stating that the two interventions just described are responses designed from the viewpoints of different systems - health on the one hand and education on the other. This separation and isolation of interventions into professional 'silos' may not be the optimal way of addressing problems that cut across systemic boundaries. This limitation is particularly pertinent for more intractable problems such as OM in Aboriginal communities. Higgins (1997) states that "Despite attempts at amelioration, Aboriginal hearing health is still at a very low level in all regions of Australia studied". It seems that existing approaches are not gaining significant results.

To repeat, OM is not a problem of separate systems. Relying solely on either teachers or health professionals to deal separately with the problems associated with health conditions like Otitis Media and their ramifications for learning, is less effective because professionals tend to work within their discipline not from a broader community approach. For rural and remote areas, and particularly those involving majority Aboriginal populations, the problems caused by 'silos' are exacerbated.

Further, Australia wide, Aboriginal people themselves have emphasised that Otitis Media is an Aboriginal community problem. Both the problem and its solution should be owned by the communities concerned.

3.2 An integrated intervention approach

It seems little else but common sense that no one agency or service provider should be expected to 'fly solo' in meeting the diversity of needs of a child suffering from the acute and chronic effects of otitis media. In fact, for the child to come out on top, an inter-agency, multi-disciplinary model of response would appear to be warranted.

This integrated approach would seek to create a collective bank of expertise, knowledge, skills and experience, by tapping into the wide range of professionals, para professionals and community groups, that no individual could possibly claim to possess.

The concept of a multi-disciplinary approach is not new but, having the boundaries extended to encompass inter-agency networks across several disciplines, extends the possibilities for the treatment and care of affected children into a new domain with combined resources.

Because of this larger remit, it cannot be expected that this multi-disciplinary inter-agency model can be built overnight. A lot of energy, time and perseverance will be required to reach a situation whereby an effective and efficient system operates. It may also require an initial catalyst to bring the diverse 'community' players together.

The project, *A Whole Community Approach to Otitis Media - reducing its incidence and effects*, which is now described, was designed as a first step in an integrated approach across disciplines to address the limitations arising from current individual agency responses to Otitis Media as outlined in the previous chapter. The project specifically targeted rural Aboriginal children. Their plight could be a possible catalyst to bring a range of players together.

3.2.1 First steps - a community to trial integration

Higgins (1997) in his report *'Addressing the Health and Educational Consequences of Otitis Media among Young Rural School-aged Children'* produced data that showed the incidence of Otitis Media in Aboriginal students was significantly higher than that of non-Aboriginal students.

INCIDENCE OF OTITIS MEDIA							
Aboriginal				**Non-Aboriginal**			
	One or both ears	Both ears			One or both ears	Both ears	
Child	16.5%	5.9%	n=21988	Child	1.3%	0.17%	n=15459
Teenager	11.7%	3.2%	n=17236	Teenager	0.17%	-	
Adult	5.2%	-	n=21049	Adult	0.9%	-	n=7208

Higgins, 1997, p.9.

Following that report, the Rural Education Research and Development Centre at James Cook University of North Queensland sought and received a grant from the Queensland Health Promotion Council to assist with the implementation of an integrated intervention program for Otitis Media (OM) to reduce its effects on the learning of children in indigenous communities.

The resulting project sought to address community health care and education issues concurrently. It built on existing networks and set out to establish community programs which would involve a collaborative effort of community, health and education stakeholders in developing and implementing strategies to reduce the incidence and effects of Otitis Media and improve the learning outcomes of Aboriginal children.

Strategies included the development of culturally appropriate Aboriginal community awareness, assisted by pro-active intervention models tapping into personnel within the communities. There should then be on-going education in and by the communities to ameliorate the effects of Otitis Media.

3.2.2 The selection of the communities

The choice of communities in which to implement the project was a key issue. A set of criteria was agreed upon for the final selection of the communities, these being:

- a high Aboriginal population;
- stability among the community;
- availability of data on Otitis Media in the community;
- potential acceptance of the program by the school and community;
- affordability; and
- prospect of success.

To assist with the above, various health, education and hearing test documentation was sought. However, information at the community level was never made available to the project officer and the non-availability of community data remained a problem throughout this project.

Instead, aggregate figures for Statistical Local Areas or Statistical Divisions had to be used. While there is no reason to believe specific community data would be greatly different from the aggregate data referred to in Higgins (1997, Appendix 2) and the 1995 Northern Health Regional Profile, it would have been comforting to have this assumption confirmed.

To compensate for this limitation, greater reliance had to be placed on anecdotal information from communications with persons knowledgable about the different communities. In this regard, special mention must be made of the invaluable guidance and assistance given by Frank Kuchappan of the Aboriginal Hearing Health Unit, Townsville.

The project team also gave careful consideration to the diversity of health and education services and personnel who were available to support the community and to monitor the effectiveness of the intervention strategies.

It was on the basis of this knowledge that the decision was made to work with the communities of Urandangi, Camooweal and Palm Island.

The following table sets out enrolments at the various schools in 1997 and 2000.

	Palm Island				Camooweal		Urandangi	
	BwgcolmanState School		St Michael's					
	1997	2000	1997	2000	1997	2000	1997	2000
Est no. in community	1995: 2116 1999: 2152 2000: 2226				~300		~20	
No. in school	290 (~98% ATSI)	~390 (~98% ATSI)	130 (~100% ATSI)	135 (~100% ATSI)	55	33 (26 ATSI)	7* (ATSI)	2-3** (ATSI)
No. of teachers			10	10	4	3	1	1

* Not one of these students carried over into 1998.

** In each school numbers could vary daily. For example, at the last visit to Urandangie in October 2000, 7 students were at school.

Criteria for selection on stability and data availability proved not to be covered.

This is the quantitative data that was available. However, a number of additional findings need explicating. While based largely on anecdotal evidence assembled from interviews, informal discussions, volunteered information and observations made over the period of the project life, these findings based o that extra contextual evidence, are an important outcome of the project.

3.2.2 *Advisory Committee*

The Advisory Committee met to provide advice as required. Membership included Dr D McSwan (Chair), Dr S Clark (Rural health Training Unit), Ms L Chandler (Rural Health Training Unit), Mr P Peachey (Aboriginal and Islander Health Program), Mr F Kuchappan (Aboriginal and Islander health program) and Ms D Ruddell (Project Officer).

3.2.4 About the communities

The accompanying map shows the locations of the communities chosen for the project.

Camooweal, the first of the selected communities to be described has a predominantly Aboriginal population. The area was first settled by Europeans in 1861 and today, the town has a population of less than 300 persons (ABS. 1996 census gave the figure as 258 persons). Despite its size, it has a variety of support resources to provide services to the local cattle industry. Community demographics include: Aboriginals; itinerants - for example, school teachers; the drivers of road trains and transport trucks; and the hundreds of tourists who pass through using Camooweal as the gateway to the Northern Territory whose border with Queensland is only 20 kilometres to the west of the town.

The country is arid with plains of spinifex and an interesting array of beautiful desert flora and fauna, cattle, and cockies on horseback. Rain is scarce but when it does arrive, lower areas soon flood. These pools can remain for some time, progressively becoming stagnant, but providing water for wildlife and places for children to play and swim. As can be imagined, this environment is conducive to recurrent middle ear infections.

Urandangi, to the south of Camooweal, is much smaller, with a population in the vicinity of 30 people. While, like Camooweal, it also serves as a cross-roads, this time to central Australia, the feeling of isolation from modern amenities is compounded by the roads which are dust and dirt.

The town basically consists of one hotel, a post office come everything, a couple of dwellings more easily described as shanties and ,with a little imagination, what could be called a community hall. The school and the Aboriginal community lie some 500 metres distant from the town, something that does not contribute to unity.

For their service centre, these two western communities, Urandangie and Camooweal, look to Mt Isa, referred to as the *axis of the outback*. In general, Mt Isa provides a number of facilities and services for the local area. Where resources are not immediately available, arrangements can be made for their access.

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Palm Island, on the other hand, is a much larger community than the two western ones. Now called Bwgcolman, it has a population of around 2000 people, made up of a mixture of indigenous groups with the main non-indigenous component being at the school, the hospital and the medical centre.

It is an island some 70 kilometres north from the regional centre of Townsville - a city which is pivotal to life at Palm Island. As Mt. Isa acts as a centre for Camooweal and Urandangi, so Townsville acts as a service centre but, being considerably larger and a port, Townsville boasts a number of additional services that can be called on by Palm Island residents.

Despite being an island, Palm has small plane charters available almost on an hourly basis though costs of flying are high. There are boat services and a barge comes from Lucinda on a monthly schedule. Yet, even here, isolation is still felt.

The comparisons between the three communities are best demonstrated in the following tabular form:

Availability and accessibility of resources

	Bwgcolman (Palm Is)	**Camooweal**	**Urandangi**
Facilities			
	Police station	Police station	-
	Ambulance	'Unofficial' service	Flying doctor
	Hospital with nursing staff	Hospital with D.O.N	Medicine cabinet at hotel
	Health clinic	Occasionally	-
	Hotel	Hotel	Hotel
	Grocery store	Grocery store	None as such
	Cafe	Cafe	-
	Petrol station	Petrol station	Bowser
	Two schools State P-12 St Michael's Staffing included several indigenous Teacher Aides, and students undertaking teaching practicals.	One primary school. Early childhood unit (P-3) depending on enrolments. Four Aboriginal TAs and a cleaner/admin officer.	One primary school One aboriginal TA.
	Kindy	-	-
	Preschool	-	-
	Daycare	-	-

Educational support	**Bwgcolman**	**Camooweal**	**Urandangie**
	AUT hearing impaired weekly	As required	-
	Speech pathologist - Townsville based and will visit community	In Mt Isa	In Mt Isa
	Learning support -school based	School based to 1999 when principal undertook role. Funding drop and fewer students saw program terminated	By telephone

Other support	Bwgcolman	Camooweal	Urandangie
	ENT - Townsville	ENT - Mt Isa	ENT Mt Isa
	Australian Hearing - Townsville	Townsville	Townsville
	Aboriginal Hearing Health Team visits community irregularly	Visits Mt Isa from Townsville base.*	Visits Mt Isa from Townsville base.*
			* Pre 1997, a team visited communities undertaking a support and coaching model especially at Camooweal. Further details are given below in a footnote.

Despite the above constraints, Bwgcolman, by late 1997, had in place a tripartite network* that included not just staff at the ground level, but also staff at senior decision-making levels. This team appeared to be moving towards a self-nurturing, effective and efficient multi-disciplinary model working collectively and co-operatively with the community in the Practice Framework (defined in 3.2.8) suggested for this project. However, time proved this situation otherwise.

The communities chosen for this project differ in size, climate and location. Yet they are united in that the population comprises a majority of Aboriginal and Island peoples and the majority of children in each place have experienced, judging on aggregate health data and anecdotal evidence, some degree or other of hearing loss associated with Otitis Media.

* The collective network involved:
- a community health team that consistently worked with the school and which handled referrals with the consent of parents
- half semester visits by Australian Hearing personnel
- a doctor
- regular networking with Townsville based ENT specialist
- a learning support teacher
- access to varying educational advisers
- a principal who, having previous experience of OM, was fully aware of the condition and its implications and so acted as a key link in the network
- a community based 'Code of Partnership' which was reflected in the school's Annual Operational Plan and supported by a funding allocation

Unfortunately, this team dissolved with the movement of key personnel.

3.2.5 *Planning the Implementation*

The decision was made to work from the schools in each of the chosen sites, outwards into the wider community. This approach utilised the existing educational networks available to the project officer and was seen to provide the quickest way to benefit the greatest number of children in the project.

Using schools was also appropriate for project personnel since some of the schools had already been involved with the Rural Education Research and Development Centre previously, both in the area of Otitis Media as well as in other work. It seemed a legitimate assumption to make that these links, and the anticipated comfort of educators with another educator coming into their schools, would assist in the implementation and follow-up of the project. By using existing connections, it was felt that the project was more likely to be supported at the community level by cooperative effort.

Also, the initial strategy was one of assisting people at the schools rather than measuring what they were doing. The project manager would be able to facilitate the identified strategies to help students suffering from fluctuating conductive hearing loss through classroom support, holding workshops for school personnel and parents and promoting liaison with outside agencies in the community. Hence there was a concentration on such classroom issues as

Classroom logistics (seating and acoustics)
Teaching strategies (See Interim Report, Ruddell and McSwan, 1999, pp.84-118)
Programming (listening skills, metalinguistics)
Accessing resources (human, financial and material)
Increasing skill with the use of Whole Field Amplification apparatus

To these were added other pertinent issues relating to this study, namely:

Personal habits (revisit and refine)
Recognition of OM, both clinical and its impacts
Systems of referral and follow up
Empowerment of the child - and the child's family
Collaborative responses and team approaches.

The recognition of the need to incorporate additional issues as they became pertinent necessitated that the approach remained flexible during the whole term of the project. The consequence of maintaining this flexibility was that it facilitated the surfacing of a number of issues and these significantly influenced the ultimate outcomes of the project.

3.2.6 *Goals of the project*

The goals of this project were:

1. To reduce the incidence and effects of OM in three selected Aboriginal communities in North Queensland.
2. To improve the learning outcomes of those Aboriginal children who have suffered/are suffering Otitis Media.
3. To embed appropriate practices to prevent and deal with OM in local communities.

Over time, these initial goals were synthesised into a number of action statements:

- An empowering structure needed to be built so practices could be driven from within the community.
- A sound knowledge base from the shared perspectives of health, education and medicine needed to be provided by the array of stakeholders eg. parents/caregivers, students, teachers, doctors and nurses.
- There had to be a linking of health and learning to strengthen the notion of inter-disciplinary cooperation.
- The discussion had to revolve around implications for the whole child and the role that varying inter-agency personnel could take.
- A 'Practice Framework Model' had to be constructed which documented roles and responsibilities within which all stakeholders could function.

- Modelling of various practices, teaching strategies, classroom management and curriculum developments was essential.

Through involvement and participation with the project, and the opportunity to take part in various activities, the aim was to empower, engage and enable stakeholders to realise that they own the process. In addition, the project team would provide formal and informal opportunities to share and celebrate the outcomes.

Included in the development of the project were considerations of:

adult learning principles;
inclusivity;
social justice;
ensuring ownership by stakeholders;
conceptualising inter-agency networking;
seeking support to foster a multi-disciplinary approach; and
ensuring parent and community involvement within the process.

The grant enabled a 12 month intervention to be run intensively in the selected North Queensland Aboriginal communities, with follow-up activities planned for a further two years.

3.2.7 Important points for putting an inter-disciplinary model into practice

The inter-agency multi-disciplinary model should focus on the whole child by:

- Devising an action plan for the child highlighting its perceived needs and who or what could best assist in meeting those needs.
- Negotiating this plan with the parents/caregivers and the child
- Inviting the diversity of people who could be involved
- Formally declaring roles and responsibilities of each member so that there is a total understanding of expectations from all parties
- Tapping the diversity of available stakeholders, and
- Ongoing reviewing and monitoring.

The model is pro-active in nature and its success is dependent upon a commitment to the following principles:

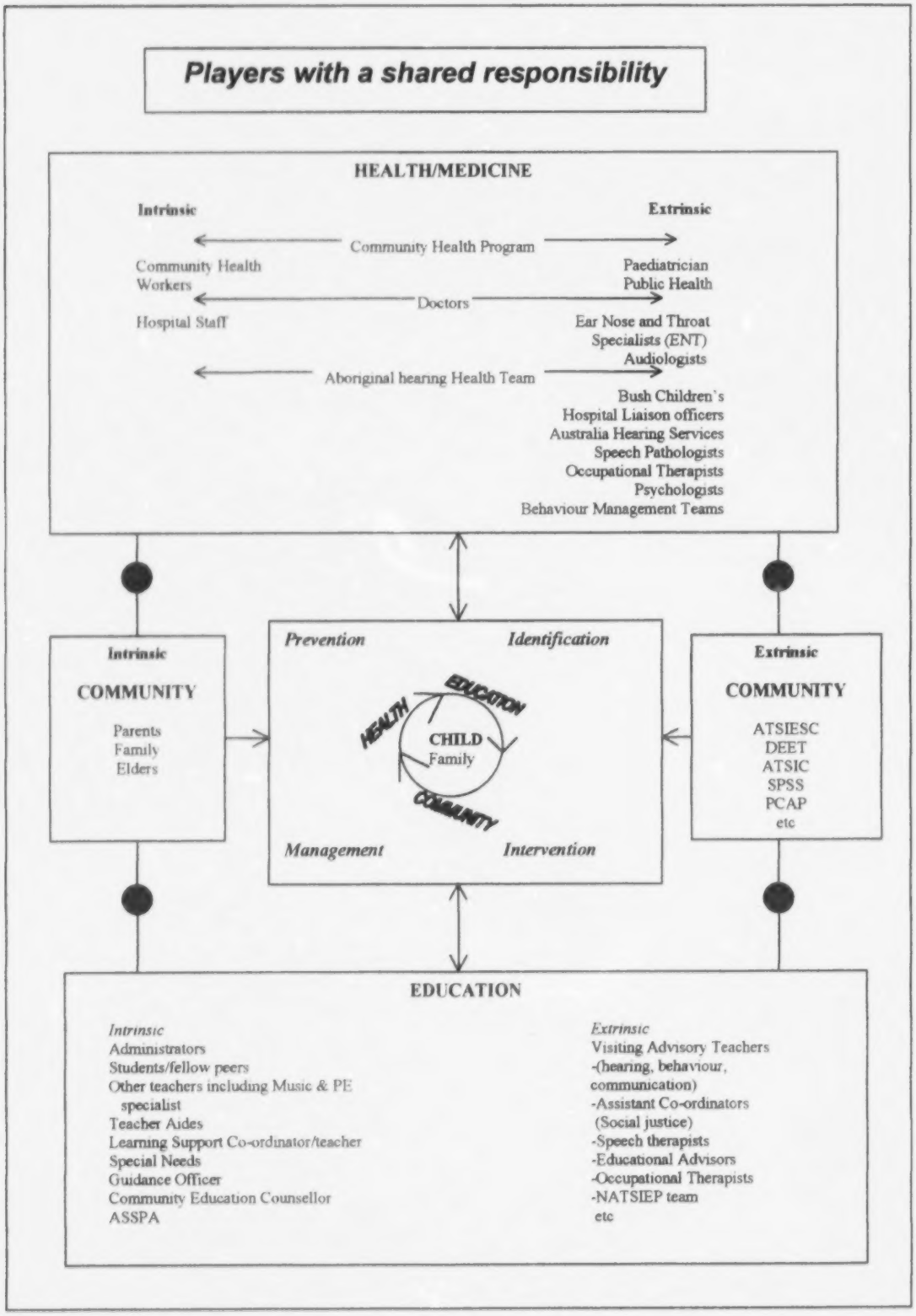
- Direct and open communication links among personnel
- Focus of all practices towards prevention
- There is no single professional ownership
- A commitment to a shared approach
- The parents and the child are central to the process

At the same time it must be realised that each person within the newly formed inter-disciplinary network is an individual, with individual views, ideas, opinions and a functioning ethos specific to the agency or system to which they may belong. Naturally, within any supportive environment, it is necessary to vocalise a mutual respect, genuinely expressing regard for and acceptance of each person's participation in the process.

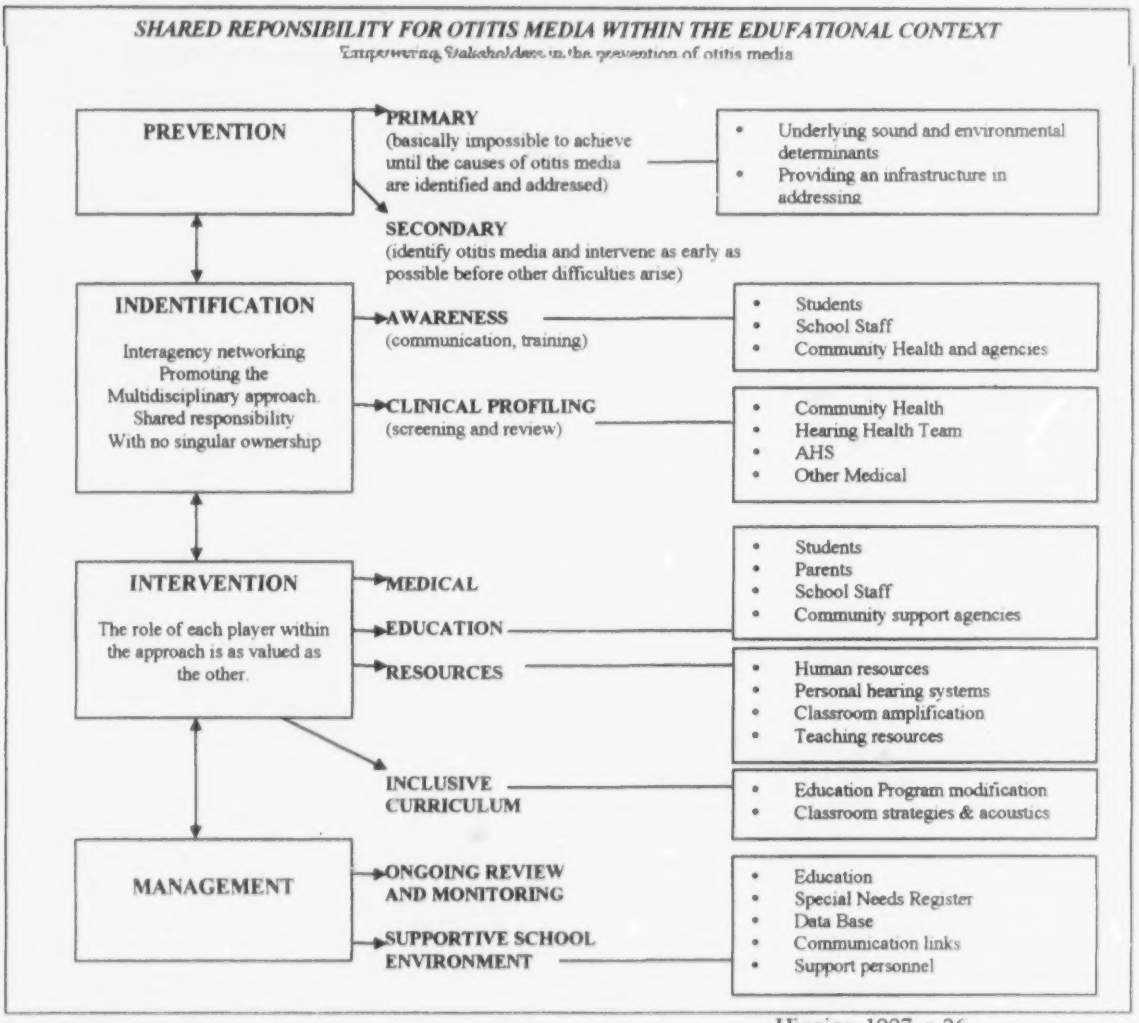
Tolerance for individual, idiosyncratic functioning styles is important, since it may be a little threatening to venture out from the safety harness of one's professional area, the protective 'silo', into an arena where one is asked to participate with a diverse range of personnel. Successful partnership may need some or all of the team participants to work through some bureaucratic interplay. However time, patience, listening to one another, tolerance and respect for the knowledge, opinions and experience of all stakeholders, is a prerequisite for putting an inter-disciplinary model into practice.

3.2.8 *The parties involved*

The two following diagrams attempt to set out the structures, relationships, processes and responsibilities referred to above.



3.2.9 The Practice Framework



Higgins, 1997, p.26.

3.2.10 Time-line for actions

The planned time-line for the implementation of the various components of the project is contained in the interim report on this research that was published in March 1999. The planned time-line is very detailed and comprehensive, amounting to some twenty six pages and can be obtained from the Rural Education Research and Development Centre of James Cook University.

This time-line, by the very nature of the practice framework on which it was based, was designed for flexibility so that feedback could influence following stages. As should be expected from this flexibility, by the end of the project, the original time-line had undergone some considerable modification.

This variation was further exacerbated by some personal events affecting the Project Officer that saw her availability to continue close association with the project reduced more than was planned during its latter phases.

However, the change highlighted an important finding of this project - that of the influence of a facilitator as a change agent. This will be discussed more fully in the next chapter.

What actually happened is illustrated by the following (abbreviated) timeline.

3.2.11 Actual time-line and interventions.

1996	Funding submission
Mid 1997	Preparation of resources Planning of community visits
October 1997	Initial visits to all communities Linking and networking with key personnel in service centres (Townsville and Mt Isa). Second visit to Palm Island.
November 1997	Weekly visits to Palm Island to undertake ♦ Inservice with administration, teachers, teacher aides, RATEP students, ASSPA, and parents at both schools. ♦ Modelling strategies in various classrooms ♦ Demonstrate appropriate use of Whole Field Amplification System ♦ Link with Community Health team to observe lessons on ear health ♦ Network with other stakeholders ♦ One-to-one discussions with teachers to assist and seek requests for follow-up information
November 1997	Similar program carried out at Urandangi and Camooweal.
December 1997	Follow up through ♦ Letters to classes ♦ Thankyou cards ♦ Xmas cards ♦ Telephone calls to gain data
1998	Schools interacted with each other. Mt Isa, Urandangi and Camooweal became involved with the 'Like School Program' and developed a website that contained extensive information on OM. Palm Island schools, after strong interest and progress towards what appeared to be a self-sustaining approach to OM intervention, began to show signs of floundering with the transfer of key personnel. Project Officer conducting this research program also transferred to another centre away from the Townsville base.
1999	Contact with the schools by the Project Officer was minimal, especially in the role of educator and facilitator. Data collection and observation 'from afar' continued with ongoing difficulty encountered in acquiring hard statistics. Palm Island initiative definitely broke down. Camooweal and Urandangi showing signs of floundering. Need for support becoming a major issue. Suggestion that a comprehensive information kit might substitute for the information conveyed by personal visits by the Project Officer.
2000	Revisit schools to collect data and ascertain level of interest in the development of a kit. Kit developed and forwarded to schools. Return visit to schools to collect final data and 'formally' present the kits to stakeholders.
2001	Finalise report.

Chapter 4: Results of Intervention

4.1 Data

Unfortunately, quantitative data based on 1997 – 2000 hearing testing program results is unable to be included in this report. The requested data has not been forthcoming. However, even if this data were available, the mobility of students (reported below in 4.2.2) would seriously compromise any trends that might be apparent in the figures. The reliability of testing data remains an issue in evaluating the outcomes of projects of this nature.

While the absence of such data detracts from the report, the collection of extensive qualitative data during the course of this study provides important insights into the progress and outcomes of the project. Of particular interest are some of the field observations and reflections of the Project Officer, which are included in 4.6.

4.2 Transience

4.2.1 Transience of professionals

While the levels of support for each community varied remarkably, as the table in 3.2.3 illustrates, a characteristic of the communities and the support agencies was the high turnover of staff and students at the schools compounding any impact that lack of access to services might have.

Many people transferred to isolated communities such as these, stay only for their 'minimum sentence' before relocating. Conversely, those that do stay generally become part of the community family and are important keys to the success of any project at the local level. In this regard, only the principal of Camooweal School remained in her position for the duration of this project. Other members of the stakeholder groups did remain within their varying contexts but their contributions were inconsistent as their roles altered or were redefined.

This meant the project could not count on consistent local leadership from staff subject to transfer within their organisations, something that became an issue when the Project Officer herself moved away from Townsville. The following tables give some idea of the problem: (State schools only)

Consistency of staff	Bwgcolman	Camooweal	Urandangi
Community Health workers:	1997 - 2 1998 - 0 1999 - 0 2000 'trialing' 12	1997 - 2. 1998, 1999, 2000 Inconsistent because of cultural issues.	-
Australian Hearing:	1997 ex Cairns. 1998, 1999, 2000 ex Townsville but minimal staff available	Irregular and if accessed, students travel to Mt Isa or Townsville.	No record with AH.
School staff:	Both schools had changes in principals. State school had 2 changes of deputy. Between 1997 and 2000 only 5 staff consistent.	Same principal 1997-2000. Taking leave 2001. Staff 1997 - 4 1998 - 4 (2 new) 1999 -3 2000 -5 but lost 2 midyear.	1997 principal transferred 1998 Changed principal 1999 Three new principals 2000 New principal appointed 4th term.

The transience of field staff personnel who have direct contact with children suffering from Otitis Media has already been documented in the preceding chapter on site context. The effects of this transience have not been measured quantitatively in this research but the experiences accumulated in the duration of the project point to the significant impact that transience can have on outcomes.

With respect to professional transience, perhaps the most telling way of gaining an appreciation of the problem is to recount what happened at a site where transience did not impact as severely as at the other sites.

The principal at Camooweal has remained (as at 2000) at the school for five years and as such has been 'adopted' into the community family. Her ongoing involvement with the OM project has stimulated staff and community ensuring strategies planned with a view of redressing the incidence and effects of OM become embedded in school practice.

Examples of the work done at Camooweal include

- Displaying healthy ear charts prominently around the school
- Introduction of the BBC program (breathe, blow, cough)
- Provide tissues in lunch areas
- Ensuring children blow their noses as a habit before entering a classroom
- Gaining support for students from the Advisory Visiting Teacher Hearing Impaired (AVTH) based in Mt Isa
- Instilling the idea in staff and students that healthy ears means healthy learning
- Developing a trusting relationship with students so they will inform school staff if they have sore ears so follow up can occur and classroom strategies could be varied
- Requests results of hearing tests conducted by others to ensure recommendations and follow up occurs
- Home Visits
- Accesses resources, for example the Whole Field Amplification System (WFAS) in classrooms
- In conjunction with the AVTH, introduced OM to new staff and modelled the use of the WFAS.
- Through the Like School Program (which links smaller schools in the Mt Isa region together) and with the assistance of the EQ Review Officer at District Office Mt Isa, initiated a wider understanding of the need to address the impact of OM in classrooms.
- This group also began a web site to address concerns over OM and to invite input regarding OM, Aboriginal learning styles and culturally appropriate strategies.

Nothing comparable to this list of activities that remained consistent over the project lifetime could be found at the other sites where high transience of professional staff occurred. In fact, a contrary view could be drawn from Bwgcolman.

In the beginning of the project, what amounted to a multi-disciplinary team already existed (see footnote to 3.2.3). This functioned as a unit within the community, driven by the dedication of the AVTH (who had been involved in an OM project in another part of Australia), the speech pathologist, and the dietician. Of great import was the eagerness that the school principal and staff showed for the project - this included invitations to the Project Officer in this OM research to contribute as another resource to carry the whole process forward with little outside intervention. There were high hopes from the OM project members, that these factors would be a foundation on which more sophisticated directions could be followed.

Some of the activities already being undertaken by that existing group were:

- Working within classrooms to provide information
- Provision of information sessions with new teachers, parents, etc.
- Regular testing by the trained community health workers with home follow up where appropriate
- Medical referral to the doctor, or where necessary, transferral to Townsville Base Hospital for specialist services
- Visits by the audiologist from Australian Hearing for a week each school term.

By 2000, Bwgcolman State Primary school had seen three deputy principals within the life of the project and the supportive situation described above had changed markedly. In fact, in an interview with one of the later deputies, the situation as he saw it was:

> *'...since I've arrived the previous principals from both schools have moved on. Nursing staff come and go, ... there has been personnel change in Australian Hearing and in intra-school mainland support. As far as I have seen, no hearing tests have been undertaken and networking between personnel is non-existent'.*

In another interview with a teacher, where the Project Officer remarked on the positive cross-agency support of 1997, the respondent drew attention to the current lack of inter-agency networking:

> *'not since I have been here. I don't think I have seen any hearing test results, nor am I aware of any community health workers being involved in the school. Maybe while you* (referring to the Project Officer of this research) *were involved, everybody got enthused and motivated and became game enough to cross boundaries. When these people go, ultimately everybody withdraws back to their individual agencies'.*

Sentiments similar to these were expressed by other staff members. Significantly, these included comments about the Community Health Worker team's being unavailable.

This is not to say that positive outcomes did not occur. At Bwgcolman these included:

- The moving of junior year students to a block of buildings away from upper classes who accessed the playground at different times of the day. This decreased the background noise that could impinge on hearing for the younger classes.
- Whole Field Amplification Systems were installed in several classrooms*. However the need to take the whole system down during holidays and long weekends, or to remove parts on other weekends to avoid stealing or destruction made the use of these systems arduous even with the best will in the world.
- The incorporation of OM as an issue within the Annual Operation Plan of the school with a nominal amount set aside in the budget for upkeep of the WFAS.
- The appointment of a school-community linked nurse. High hopes were held for this position as a way of opening further the links that made a multi-disciplinary approach especially in 'operationalising' some of the actions listed in both the school AOP and the Bwgcolman Community Vision Plan. Unfortunately, this program did not proceed and the person withdrew soon after appointment.

But the fact remains, despite what appeared to be a positive start, transfers have played a role in limiting outcomes in addressing the impact of OM on the local youngsters.

4.2.2 Transience of students, parents and families

It became apparent in this project that transience should not be discussed only in terms of professional staff, usually of government agencies, who would be expected to be key players in any actions to address the impacts of Otitis Media. A deal of transience was also a characteristic of the communities themselves. Changes in family circumstances, deaths and illness, and cultural concerns dictated moves of families and family groups. For example, at Urandangie, there was a complete turnover of student population with no one child the same from 1997 to 1998.

This transience of students and their parents meant that a consistent approach to OM could not be guaranteed for any one student. This, and the difficulty of tracking students who moved away from the research site, made the collection of quantitative data also problematic. As mentioned in 4.1, even if hearing test data had been collected and made available, it would not necessarily be useful to this research as it would not deal with the same cohort of students over time.

It would therefore appear that using a school as the site to mount interventions directly should also target more than students alone. When students move, someone other than the school needs to be aware of what is needed for OM sufferers to ensure the students continue with the necessary programs. This opens a whole new aspect of planning interventions for consistency of implementation - the aspect of having adults who may have ongoing contact with the student becoming familiar with what is being done and what outcomes are expected with an initiative. This would more likely assure continuity of informed care.

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* It is interesting to note that St Michael's School used the presence of WFAS in their school in newspaper advertising seeking increased enrolments in 2001.

4.3 Resources

4.3.1 Whole Field Amplification Systems

Note has been made earlier in this chapter of the use of Whole Field Amplification Systems in the schools involved in this research. The WFAS is a technological response to increasing the hearing function of children already effected by OM and its accompanying fluctuating hearing loss. Basically, WFAS is a broadcast system whereby a teacher speaks into a microphone and the speech is broadcast as a radio signal through aerials attached to the walls of the classroom. Students wear receivers in the form of hearing aids so that the sound level for individual students can be boosted to a level that aims at greater hearing function.

Other technological resources such as hearing aids and bone conductors accessed through Australian Hearing can be beneficial if used from an early age.

However, these technological responses to OM, while very valuable, are reactive in nature, trying to deal with a consequence of OM rather than addressing the condition at its inception.

The goals of this OM project had a wider remit and sought to look for ways that both incidences and impacts of OM could be reduced using other strategies. Part of this remit was to create community appropriate resources, often with the aid of students, to introduce an array of teaching strategies. In this regard, it became increasingly apparent as the project progressed that there were a variety of remarkably simple activities that could reduce both the incidence and the impact of OM if these activities were incorporated into everyday life as habits. These simple strategies could be described as a 'knowledge resource'.

4.3.2 'Knowledge' strategies

(a) The first simple strategy was to encourage nose and throat clearing - the Breathe, Blow, Cough (BBC) strategy. This strategy had been introduced to schools at several times in the past and by various agencies, but some confusion (and disbelief?) about the efficacy of such a simple activity was evident in schools. This had to be addressed through staff training to show the underpinning medical and educative basis for the strategy. The resulting 'hawking and blowing' also made some staff uncomfortable about its appropriateness as a type of behaviour to be encouraged.

However, particularly at Camooweal, midway through the project and with follow up by AVTH, BBC was close to habitual. In fact, some staff chose to ask students to blow noses after play when they entered class. Activity during playtime assisted with the loosening of phlegm on the chest and blockages in the eustachian tubes, so nose clearing immediately after activity capitalised on this. Observation by the teacher also proved a perceptive move because any signs of yellow-coloured snot or ear pulling (a symptom of OM pain) could alert the teacher to a possible problem. This was followed with a note to the parents and a clinic referral.

It remained a highlight for the Project Officer to see a photo of a box of tissues, a bin and the actual tissues appear at the Camooweal Day Care Centre after a training session at the school.

(b) The second simple strategy was to ensure the individual child had the best chance of hearing and understanding. This included sitting the child suffering with a bout of OM closer to the teacher and using modelling behaviours rather than verbal instructions.

(c) Other strategies included the development of curriculum units and supporting activities - the song *Blow not Wipe* during morning music sessions is a good example as also was the preparation for a Community Fair that included student prepared information about OM. Some units of work utilised the contract mode to further empower students.

4.3.3 A Resource Kit

While the WFAS was used and demonstrated by the Project Officer along with these simple strategies, it became more apparent that teachers and others were looking for a way of continuing to learn from and develop the simpler strategies which did not require the attendance of outside agencies. Thus the idea of a kit was born as a direct response to this situation.

When the completed Resource Kit (see appendix 1) was presented to meetings designed as formal closure, it was perceived as a comprehensive and adaptable package which, when it became widely available, could answer the majority of needs that stakeholders felt were required in supporting a workable intervention strategy. It was accepted that the kit was capable of implementation and could make a difference to a child suffering from the effects of OM, the use resulting in some reduction of the incidence of that affliction.

It is a recommendation that the kit produced as part of this research be more widely available to communities and agencies that have concerns of OM and its effects. This kit would support the promulgation of a series of simple in-class strategies and the more technical WFAS to provide a multi-pronged approach to addressing the effects of OM in students. Appendix 1 lists the contents of this kit.

4.4 The value of a facilitator

The facilitation role played by the Project Officer took on three aspects: one was that of trainer; another of motivator; with a third (which was recognised only later in the project) being that of sustainer of the initiatives.

4.4.1 Trainer:

The training aspect of the Project Officer's work has already been largely covered in discussion about the kit, the simple strategies encouraged in the classroom, and the information and discussion sessions involving staff at the various sites. Up until the kit was developed, a number of other resources such as books, pamphlets, charts and material , especially developed by the Project Officer, formed the main materials used. Training was based on 'immersion' that included as many players as possible, for example the creation of 'big books' by a teacher and a class were, in turn, used by other classes and adult groups. Thus training spilled over from teachers to students to community.

Training assistance was also given with nose blowing, with the operation of the WFAS and modifying of class seating to optimise results.

4.4.2 Motivator:

Sharing was a key aspect of training, and this influenced the development among stakeholders of the motivation to be involved. The motivational aspect also depended on the approach that was taken by the Project Officer. The approach was one of openness, availability, flexibility, respect for cultural issues, and awareness of the imperatives of the schools and other agencies and how they could distract staff from giving time to OM and a visiting 'outside expert'.

It was often a case of 'doing' rather than 'telling' to illustrate strategies and motivate staff - 'If I can, you can'. The Project Officer was also unafraid to 'get in and get dirty'. Demonstration lessons were given in classrooms and on the beach (at St Michael's, Bwgcolman). This was backed up by serious academic discussions about educational and medical aspects and impacts of OM. The key strategy remained, though, to convey a simple clear message whether to teachers (this was revisiting the obvious for some), students, community or other professionals - ***if you can't hear well, you can't learn well***.

4.4.3 Sustainer:

The Project Officer was heavily involved with the communities during the initial phases of this project and it was planned that there would be a decrease in that involvement as the project progressed. This was to allow some estimate to be made of the degree of ownership the communities and their schools, together with other professional staff, developed over time for the strategies, or, at the very least, for an inter-agency approach to OM.

However, the Project Officer also became a transferee, having to leave Townsville where she was based as coordinator of the project, to move to another North Queensland location. The move and subsequent role change within Education Queensland made it somewhat more difficult to stay actively in touch with the project. Complicating the situation were unforeseen, serious, personal health problems that made travel and commitment of time for the Project Officer more difficult as well. The nett effect was that less consistent Project Officer time was devoted to the later stages of the project than was originally planned.

This occurrence had one positive and important result. It threw into stark relief the role that the Project Officer was playing in sustaining the interest of the various on-site players in the OM project. It also raised questions about sustainability of projects in general when these projects face the consequences of rapid staff turnover, other competing priorities, and assumptions that simple activities are more liable to be ongoing without frequent checking.

Further, it became apparent that the role the Project Officer had in sustaining the project was not only that of being motivator and trainer. The Project Officer had been a catalyst to influence the stakeholders at each site to participate across their usual agency boundaries.

4.5 Communication

Communication proved to be a major factor in all aspects of carrying out this project. It included: communicating data (or lack of) to stakeholders; communications among the schools and their communities and the various agencies; and the use of wider media sources. Information gathering and dissemination were major issues during the whole period of the project.

4.5.1 The case of hearing tests

While mention has already been made of the non-availability of hearing test data, this form of data also has other limitations. The hearing tests themselves suffer in effectiveness from problems of regularity as well as availability of results. The fluctuating nature of Otitis Media, coupled with the mobility of children with the problem but the lack of equivalent transfer of their relevant documentation, seriously compromise the effectiveness and usefulness of the testing programs. Longitudinal data cannot be viewed as reliable even when it is available since the tests may not have shown up the extent or frequency of OM or its effects on the learning abilities.

Further, many teachers have, at best, a rudimentary understanding of the data and do not know what it implies for teaching and learning.

4.5.2 Presenting findings to stakeholders

As a culmination for the project, dates for a formal presentation to all stakeholders at each major site were organised. Invitations were issued to members of the project management team, personnel at varying levels of health, medicine and education, as well as to staff, students and their parents, together with people from the community itself.

Two approaches were tried, influenced somewhat by time constraints.

(a)
For the two far western communities, the main service centre, Mt Isa, was chosen as the venue for the presentation and invitations were extended to other potentially interested parties, for example, principals and staff of schools in Mt Isa and surrounding districts as far as Townsville.

The presentation was designed to celebrate the participation of the many people who were involved in the project and to acknowledge their efforts. At the same time, the completed Resource Kit with its array of materials that could be used to support a 'whole child' approach to dealing with Otitis Media was to be featured and explained. Unfortunately, the date that had to be used in Mt Isa coincided with the Cloncurry Rodeo, the finals of the AFL, the death of a senior member of one of the communities, and a conference that was organised for district principals and which was held in Brisbane. However, those who did manage to attend appreciated the effort made to report back on the findings of the project and further useful anecdotal evidence was gained from the meeting. Attendees were particularly appreciative of the completed Resource Kit, seeing it as a comprehensive and adaptable package of diverse media which could be utilised in varying contexts and for a variety of audiences.

(b)
A different approach was taken at Palm Island. The presentation here was lower key, being delivered at a morning tea at the local school. This gave staff the time to look through the materials at their own pace and to ask questions as they occurred to them. The more relaxed atmosphere also allowed interaction among the staff from the schools (both schools - Bwglcolman and St Michael's had staff

attending) and the small number of stakeholders from Education Queensland District Office, Catholic Education, Community Health, and community members.

Each approach underscored the problematic nature of communication with people who are at the coalface of interventions, actually dealing with students and the wider community, in small and isolated settlements. They are so inundated with work and other activities that, even with the best will in the world, they have little time available in common where they might all attend an additional event.

4.5.3 Use of media - ways to enhance credibility

The schools and the Project Officer made use of local and statewide media to inform the general public of achievements the project made possible. These were archived by the Project Officer and used for presentation, publicity and feedback purposes.

Students seeing themselves, their problems, and their successes in dealing with those problems, discussed in national or state media, felt this gave a legitimacy and credibility to their actions beyond that which only local acknowledgment could engender. It also enabled further networking across cultural and agency boundaries.

4.6 Field Notes from the Project Officer

Note has been made of the use of qualitative data as the primary basis in writing this report. A deal of this information comes from the observation notes made by the Project Officer during the project. The notes illuminate some of the experiences and effects the work produced, and being written at that particular instant, often have a particular poignancy. Some of that data is included here in truncated form.

1. Don't expect everyone to be running with you if they have just learnt to walk
    - Those with experience need to step back periodically and access parties within the communities to oversee the developed models
    - Don't overwhelm - acknowledge that interaction with stakeholders will vary, and use an array of varying resources to meet the differing levels of understanding of the stakeholders
    - Be multi-skilled and be in the know of who to contact

2. Slow, slow, slow

3. Utilise all avenues to raise awareness but have all parties 'in the know'
    - Use media
    - Make no promises
    - Keep stakeholders in the loop
    - Build friendships by developing this closeness and trust so that children enjoy visits and the community groups are prepared to welcome, listen and question
    - Use empathy and understanding rather than directives
    - Encourage community involvement and 'empowerment'.

4. Excellence will come with experience over time
    - Specific programming to meet individual needs will evolve
    - Whole class activities are the starting point when high percentage of students have OM or its effects

5. Join forces to share the message and utilise systems already in place to ensure that practice follows the message

6. Iterate practices until they become a behaviour
    - Tissues
    - Blow your nose
    - Baby program

7. Encourage the 'we' with its strengths and capabilities. In the past, individual efforts in individual disciplines saw many people thinking they were doing something. Yet few participants were telling anybody anything and repetition and duplication was apparent.

8. A common, sound knowledge base from the shared perspective
   - Shared language
   - Shared message

9. Critical reflection and questioning
   - Why am I doing this?
   - What will happen next?
   - Who will follow up?

10. Instil collaborative process into practice to avoid intervention in isolation.

11. In a nutshell, initial intervention should be with 'colours and lights' - not too bright as to be daunting, threatening or overpowering, but bright enough to make everyone sit up and listen. Then slow down to give time to integrate strategies and practices across the disciplines until the approach is inclusive of all agencies. With inclusion reached, the expertise will be there to provide for specific programs for individual children.

12. In implementing any change paradigm, communication and participation are crucial in eliciting support and involvement of all stakeholders. Without this, the attempts to initiate any shift in the ways things are presently done - the existing paradigm - will be met by adversity and a resistance that is often based on fear and ignorance of the unknown.

13. It is absolutely necessary to embrace culturally appropriate practices and to gain community endorsement of strategies that may be introduced to address an issue such as OM.

14. To ensure a smooth transition, practices should include:
   - Making people feel valued and appreciated
   - Respecting the roles and responsibilities of those involved with the change continuum
   - Openness and the 'laying of the cards on the table'
   - A willingness to 'let go'
   - A sense of whole picture vision for the future.

Chapter 5: Lessons Learnt and Summary.

Despite the chronicled difficulties, barriers and setbacks attending the project, the data which was gathered has several important implications for future work in this area and for those recording and those needing to access records where inter-agencies are involved.

5.1 Transience

5.1.1 Staff

What is to be done?

First, there is a need to be realistic. While it would be simple to recommend that transfers should be kept to a minimum, the reality for small and remote communities is that it will not happen. This is the case for a number of reasons. It must be acknowledged that transfers can have positive aspects - staff can take with them the knowledge and skills learned in one place to be used for the benefit of another place. Care must be taken that the corollary of this, leaving staff at the site for convenience, is not used as an excuse for inaction either by the transferee or the transferring authority.

Further, incoming staff members need to be fully briefed on the situation into which they have been transferred. As importantly, skills needed at a premium in the new posting should be updated before the transferee arrives at that posting. Part of being fully briefed is having access to comprehensive data including summaries of the initiatives presently extant in those communities. To assist in the latter, processes should be put in place to ensure such summaries are prepared as a matter of course by the departing personnel and made available to new staff members, preferably before arrival.

5.1.2 Transience of students, parents and families

The strategy of recognising the community, and particularly parents, as stakeholders in the OM intervention program examined in this report, meant that student and parental transience could be at least partially counteracted if the parents had some knowledge of OM intervention strategies to take with them when they relocated.

In this regard, at Bwgcolman, in the latter stages of this project, twelve community based health workers, several of them being school parents, were in training. The school has also again taken a role in moving towards closer community relations.

While the long-term outcomes of this current strategy are not able to be judged as yet, several initiatives appear to have some merit. First, the idea of training multiple community members to overcome, at least to some degree, the problems of transience has a strong practical community capacity building element as well as provision of immediate help to the OM sufferers. Second, the role of the school in supporting these community people to utilise such training for their students should give positive messages to the community that the school does care about the learner.

Training of community members in the basic skills needed to address the more pressing concerns in a community, should aim at providing a pool of trained support workers rather than just enough people to satisfy a situation or action at one point in time. This provides for a double benefit - firstly, enough community members to ensure continuity of a program at that site and secondly, a 'trickle out' effect as knowledgeable individuals and families leave the local community. Even though community transience was not measured in this project, it did impact on the implementation and outcomes. From the anecdotal evidence, a redundancy of three or four times above immediate requirements in any training effort at community level would seem entirely supportable.

5.2 WFAS and resources

The system does work but also has several limitations, not the least of which is vandalism hence the chore of regular dismantling for storage over long breaks or while rooms are used for other functions. Moreover, WFAS remains a reactive process that does little to limit or contain the incidence of OM. It also seemed to some to be a foreign tool limited to expert usage because of a degree of ignorance on the part of other potential users. It remains a technical solution with attendant technical problems in areas where access to technicians and confident operators is limited at best.

The resource kit that developed as the project advanced did so in response to an expressed need and demonstrates why flexibility of approach to such issues as OM is so necessary to ensure cognisance is taken of such needs. It is suggested that the kit be more widely available to communities and agencies that have concerns over OM and its effects. This kit would support the promulgation of a series of simple, in-class strategies and support the more technical WFAS to provide a multi-pronged approach in addressing the effects of OM on students working in classroom situations.

5.3 Role of facilitation to sustain project

While the role of leadership that encourages participation by inspiring and motivating others is an obvious factor in bridging agency boundaries to create a collaborative team effort to address a pervasive problem, in this case OM, other factors were recognised as important.

One of the surprises for the Project Officer during the implementation phase was the need the various stakeholders appeared to have for her to act as the sustainer of the project. This led to the emergence of a series of unexpected but seriously important social factors.

Not the least of these was the trust that was developed between participants at the sites and the Project Officer, and this stemmed in part from the open and inclusive approach taken. Further, the personal contacts that the Project Officer had with more senior decision-makers in the various agencies, made it easier for on-site personnel to move outside their agency boundaries without creating risk to their own careers. Frequently, careers in bureaucratic structures are linked to how well the personnel perform in fulfilling their own agency's agendas, not on the risk-taking outside those parameters which is often the outcome of widened perspective associated with collaboration. Importantly, the personal networks brought to the project by the Project Officer made an important contribution to the development of cooperation among stakeholders and to the overall sustainability of the project.

The fact that local structures, when left on their own, tend to collapse with time is illustrated by what occurred at Bwgcolman. Yet these structures are comparatively easy to revive when there are incentives (overt or covert) for collaboration. Site personnel can discern the benefits of continuing connections through the outside facilitator. Such recognition highlights a major issue that has been identified in this project.

In planning a project or intervention that addresses a concern which has a breadth that places it beyond the capacity of any single organisation to address, the provision of external facilitation is a key issue in creating sustainable inter-agency and cross-discipline collaboration. The facilitation approach should be open, inclusive, flexible, cognisant of agency agendas and priorities, and aim at inspiring trust between all parties.

Further, the facilitator should have networks that link into more senior decision-makers in the various agencies so as to ensure at least benign approval for the project and process in hand. Additionally, the facilitator should also have the skills to limit the perceived risks that site personnel may associate with moving outside the boundaries of their bureaucratic structures.

These factors would increase the sustainability of the initiatives beyond the implementation phase.

5.4 Is a full partnership realistic?

The model of implementation on which this project was based rationalises the principles of inclusivity, promotes social justice, ensures the sharing of resources, collectively pools knowledge and personal expertise and taps into years of experience. Such inclusivity offers the learner increased possibilities. For educators, collective responsibility extends beyond the boundaries of the school into the wider frontiers of the community, providing opportunities for the 'whole' child. For many, this is an entirely new mind-set.

Historically, interventions to address the incidence and effects of Otitis Media have reflected the independence of the agencies that have sought to provide some assistance. Broad categories of agencies can be recognised: medicine, health, and education. Each has pursued actions, with the very best of intentions that have had, unfortunately, little reference to what actions any other agency might also be taking. The agencies might best be described as working within their own 'silos'.

We could liken some of what is being done by these individual agencies as the putting on of bandages. The bandages are there for everyone to see - proof that something is being done, that grant monies are being spent, that the system truly does care. There are specialist staff for wrapping the bandage, for pinning the end, for discharging the patient - read behaviour managers, suicide response teams, truancy officers - but rarely does the cut under the bandage - read OM sufferer - receive attention. It can continue to fester. This situation arises because of the need to assess the treatment of the whole problem from underlying causes to the alleviation of symptoms. This may require 'outside' consultation and collaboration to illuminate and diagnose the nature of the cut before relevant policy and procedures can be devised and implemented.

Certainly, within each silo operates a number of people in varying positions whose expertise can be tapped into but at present their job descriptions, dictated by policy, limit their ability to take on other roles. These people tend to be already overwhelmed by their workload as they seek to address a wide range of issues within their respective fields. Maintaining intramural networks becomes difficult enough let alone fostering extramural ones.

With all of these limitations, it seems difficult to see that partnerships across agencies and disciplines, that effectively include communities, will be easily achievable. More telling, even when the partnerships are achieved, without attention to sustainability, they will tend to dissolve with personnel changes. The issue is to devise positions or role statements to incorporate effective, collaborative networking.

5.5 Communication problems

(a) Sharing data is one important means of communication. For communities and their schools dealing with OM, such data provides a solid foundation for making decisions on classroom strategies, learning programs, resourcing and professional training for school, agency and community personnel. There is a great need for information sharing and data accessibility among all the relevant stakeholders. The absence of the data limited the ways in which the project could be implemented and checked.

(b) Raising awareness of the problems and solutions for those dealing with OM was another area the project showed was in need of attention. Despite the careful plans to give as wide a feedback coverage as possible, several barriers were identified.

First, there are so many other activities going on and so many other demands on time that it is difficult to find a suitable time for any formal presentation process - there is just too much chance of some critical stakeholder being elsewhere on another activity.

Second, informal presentations, while valuable to people 'on the ground', tend to not attract senior decision-makers thus limiting the impact the presentation could have on their considerations for future action on policy and procedures. Yet without their support, there would remain a discontinuity between agency decision-making and practical implementation at the community level.

The solution appears to be specific targeting of people at a more individual level. The value of such an approach is something that this project has identified as an area for further research. A whole raft of new issues are involved, including that of making enough time available in a project to pursue a more personnel-friendly program. Issues of credibility of the project and project staff particularly are involved as they impinge on access to senior decision-makers and understandings of grass-roots contexts.

(c) One of the ways that can contribute to the gaining of greater understanding of and commitment to a project is the positive use of media. Several outcomes can be ascribed to the use of media to promote a project.

First, it raises public awareness of an issue, and if some positive results of a project are detailed, the publicity also includes an educational element that could benefit others. Further, public attention on the issue then becomes not only a sensitisation to a problem, but includes a 'satisfaction' component that something is being done. This issue is not just another problem in the myriad of problems that flood the public consciousness from the media.

Second, positive publicity for a project does the proponents of the project no harm either. It may assist in accessing future funding for other activities to implement the recommendations.

Third, it casts in a positive light, to a greater audience, the actions at a community level by acknowledging the work of a project in which the everyday people are involved. The mere fact that what they are involved in is recognised by the media as being of interest to that larger audience conveys an increasing sense of importance for their localised actions. Furthermore, the more 'national' the media coverage the better. Print media should be targeted particularly because clippings on local noticeboards and at meetings can be physical evidence that wider attention is being paid to the project.

Fourth, and something which relates to cooperation between agencies, when wider media coverage acknowledges the people and the agencies involved in the project, the degree of risk-taking associated with staff moving beyond their usual bureaucratic boundaries is reduced. Not only are the participating staff members acknowledged but, in general, more senior decision-makers have evidence that what staff are doing is being recognised by a wider audience. This recognition may assist in career opportunities based on more than system judgements.

Last, attention should be paid to the use of media in reporting the success of a project like this one. Media with a wider circulation than just the local area should be targeted and reporting should be continued over the life of a project outlining both the reasons for the project, its successes and acknowledging the partners in the project. There is a great need for research and its findings to gain public credibility when it so directly impinges on service delivery to ameliorate a widespread problem.

5.6 Summary of the Project

This project set out to examine the possibility of an integrated approach to reducing the incidence and effects of Otitis Media in three small rural communities with a high Aboriginal population component.

The project was beset by a number of difficulties that could be interpreted as lessening the impact the planned project had on its target audience.

Despite the difficulties, the project has demonstrated that an integrated approach to limiting the incidence and effects of OM can have positive outcomes. That positive outcomes could be demonstrated in the face of the difficulties shows the potential strength of the approach taken in this project. This contention is supported by an independent evaluation of the project (Store, 2001) which is available separately from the Rural Education Research and Development Centre at James Cook University, Townsville.

One of the valuable results of the project is the documentation of the difficulties encountered in this project. They are difficulties that are of importance to any action that envisages an integrated approach to addressing a community problem. While ways of effectively solving those difficulties are suggested in this report, further work needs to be done in this regard.

More specifically, this project has highlighted the lack of effective communication across agencies and disciplines. It must be recognised that each has some role in addressing a community problem but working in 'silos' limits not only the effectiveness of each agency and discipline but also the benefits from their efforts that should accrue to the clientele.

The success or otherwise of actions to redress such a problem depends heavily on the representatives of agencies, disciplines and bureaucratic bodies reviewing present policies and practices in negotiation with the community and with one another to ensure an integrated approach is taken to solve the problem.

This project has indicated such an approach is worth further development.

Chapter 6: Recommendations

Transience

Incoming staff need to be fully briefed on the situation into which they have been transferred. Part of being fully briefed is having access to comprehensive summaries of the initiatives presently extant in those communities.

To assist in the latter, processes should be put in place to ensure such summaries are prepared as a matter of course by the departing people and made available to incoming staff members.

The skills needed at a premium in that new posting need to be updated before the transferee arrives at the new place. In the case of this project, incoming transferees should have skills in the recognition of Otitis Media, in strategies that can limit its effect on learning, have knowledge of referral processes where medical treatment is warranted, and skills in working with personnel across other disciplines.

Training of community members in the basic skills needed to address the more pressing concerns in a community, should aim at providing a pool of trained support workers, rather than just enough to satisfy a situation or action at one point in time. Even though community transience was not measured in this project, such movement did impact on the outcomes of the project and, from the anecdotal evidence, a redundancy of trained personnel of three or four times above immediate requirements in any training effort at community level would seem entirely supportable.

To aid in the awareness training, it is recommended that the kit produced as part of this project be more widely available to communities and agencies that have concerns over OM and its effects.

Recommendation 1: Transience at both professional and community levels needs to be addressed by strategies to maintain awareness of those involved in interventions at the local level

Resources

While mention has been made of making the kit available, the provision and use of other resources such as the Whole Field Amplification System and hearing aids must be given attention.

Those who are to use, or be involved in the use, of these resources, whether teachers, other agency personnel, community members, students and parents need to have adequate training in their use.

Recommendation 2: Resources need to be more widely available and users of these resources need to be skilled in their use

Faciliation

In planning a project or intervention that has a breadth that places it beyond the capacity of any single organisation to address, the provision of external facilitation that is effectively able to cross the boundaries between agencies is a key issue in creating inter-agency and cross-discipline collaboration. The facilitation approach should be open, inclusive, flexible, cognisant of agency agendas and priorities, and aim at inspiring trust among all parties.

The facilitation needs to engender good motivation.

Further, the facilitation process should incorporate networks that link into more senior decision-makers than those only at the local level in the various agencies. This will ensure some perceived legitimisation for the project and process in hand at that local level. The knowledge that the facilitator has these contacts will also to limit the perceived risks that site personnel may see associated with moving outside the boundaries of their own systems and structures.

The facilitator must use these networks for communication back to senior decision-makers.

Recommendation 3: Facilitation of the inclusive approach by an external agent is necessary

Inclusivity

The inclusive approach taken in this project involving teachers, students, parents, health workers and community, and incorporating a range of strategies from low key to highly technical, generated positive outcomes which indicate that the processes need to be promulgated and given wider support.

A number of individual initiatives based in various disciplines are already in place. They need integration, rationalisation, and synchronisation to reduce the potential for unnecessary repetition and duplication of effort in the field. (Militating against this, there was some anecdotal evidence that a multi-disciplinary approach was less likely to receive funding assistance than an approach that was channelled through a specific discipline.)

As Otitis Media can have such profound effects on the ability of a child to learn, the implications of this reduction in learning ability for reducing the effectiveness of interventions that target other community problems - for example diabetes and Aids in the area of health, or literacy and numeracy in education - needs to be recognised.

Recommendation 4: An inclusive approach needs to be adopted as a matter of urgency

Communication

Information in the domain of individual agencies has to be made available to all involved in the inclusive intervention. For example, hearing tests conducted on children must be accessible and reported in ways that can be understood by other people involved in the team approach to intervention.

Periodic recontact with people at the target sites must be a feature of the intervention. This communication reinforces the perception of interest in the people in the project and serves to revive flagging attention at the local level.

Communication with senior decision-makers is essential to maintain the legitimacy of the project. As already stated, this is a role for the facilitator as, in practice, it is difficult for senior decision-makers to attend formal presentations organised for their combined benefit, or for them to all be present at seminars at 'ground level'.

Attention should be paid to the use of media, particularly print media, in reporting the success of a project at a local level. Media with a wider circulation than just the local area should be targeted and reporting should be continued over the life of a project outlining the reasons for the project, its successes and acknowledging the partners in the project.

Recommendation 5: Communication is an essential component to reinforce the inclusive approach and to validate its success.

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Appendix 1

Resource Kit

1

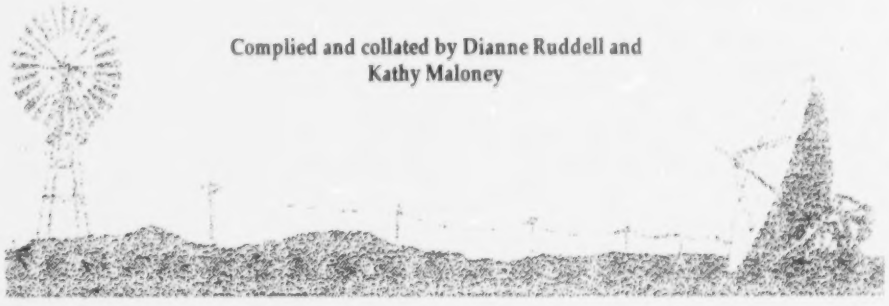
A WHOLE COMMUNITY APPROACH TO OTITIS MEDIA (OM) - REDUCING ITS INCIDENCE AND EFFECTS

RESOURCE KIT

QUEENSLAND HEALTH

QUEENSLAND HEALTH PROMOTION COUNCIL

RURAL EDUCATION RESEARCH & DEVELOPMENT CENTRE
JAMES COOK UNIVERSITY
TOWNSVILLE QLD 4811



Complied and collated by Dianne Ruddell and
Kathy Maloney

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Thanks are also due to:

Members of the Project Management Team:
Mr James Harmon, Director, Rural Health Training Unit
Mr Phil Peachy, Director, ATSI Health
Mr Fank Kuchuppan of the ATSI Hearing Unit

School, community, students, health and medical services of Palm Island.

School staff, students and the community of Urandangi.

School staff, students, parents, the community of Camooweal, health personnel and Director of Nursing at Camooweal Hospital.

Flying Doctor Service of Mount Isa

Aboriginal Hearing Health Team

The diversity of stakeholders representing the triparte (health, education & medicine) multi-disaplinary model based in Mount Isa and Townsville.

Special thanks to:

Dr David McSwan
Kathy Maloney
Sarah and Laura Mayes
Craig McDonald
Bev Mullholand
Wendy Cornel and Angus
Richard Ruddell, Jay, Jodi and Joshua
Carol Brumpton
The co-operation of media

Contacts for Resource Kit

Who to contact	Name of book	Author & Publisher
Mr Craig McDonald The Coordinator Aboriginal Hearing Program PO Box 40596 CASURARINA NT 0811 PH; 08 89992929 Fax: 08 89992955	Listening & Speaking Classroom Games to Play NT Aboriginal Hearing Program	Namoi Merry (Dept of Ed Katherine) Jan Doherty (Dept of Ed Tennant Creek) NT Aboriginal Hearing Program 1995
Ms Bev Mulholland NSW AECG Inc 37 Cavendish Street STANMORE NSW 2048 Ph: 05 550 5666 Fax: 02 550 3361	Aboriginal Teachers' Manual Healthy Ears Hear better	Distance Ed Branch of the NT Dept of Education P&P April 91/198-1000 ISBN 0 7245 2503 3
Mr Craig McDonald The Coordinator Aboriginal Hearing Program PO Box 40596 CASURARINA NT 0811 PH; 08 89992929 Fax: 08 89992955	Ear Resource Book	Coord Cheryl North, Complied by Aboriginal Hearing Program Project Officers, Aboriginal Ed Progam's First Triennium Bev Hayhurst, Marguerite Hondow, Naomi Merry
Curriculum Corp, 1994 141 Rathdowne St Carlton Vic 3053 Ph: 03 639 0699 Fax 03 639 1616	To be good at English NO LONGER IN PRINT	Margery Hornibrook & David McRae NT Dept of Ed ISBN 1 86366 233 2
Board of Studies NSW 1994 PO Box 460 NTH SYDNEY NSW 2059 Ph: 02 925 8111 Oct 94	Otitis media and Aboriginal Children A handbook for Teachers and Communities	Board of Studies NSW ISBN 0 7310 3325 6
Aboriginal Health Promotions Branch, Health Dept of WA Beth , Woods Ph: 09 222 2098 Fax: 09 222 2088 C Block, 189 Royal Street, East Perth WA 6004	Hearing-Ear Health , One-to-one Education Cards - "Discharging ears"	Aboriginal Health Promotions Branch,
Aboriginal Health Promotions Branch, Health Dept of WA Beth Woods Ph 09 222 2098 Fax: 09 222 2088 C Block, 189 Royal Street, East Perth WA 6004	Hearing-ear Health, One-to-one Education cards "Glue Ear"	Aboriginal Health Promotions Branch,

BOOKS THAT CAN BE ORDERED ANYWHERE

QBD Flinders Mall TOWNSVILLE QLD 4810 Ph: 47716091 Fax: 47214662	Help! I'm falling apart!	Tedd Arnold/ Penquin
QBD Flinders Mall TOWNSVILLE QLD 4810 Ph: 47716091 Fax: 47214662	Aboriginal & Torres Strait Islander Studies Book 1	Wendy Harris & Roslyn Kay Learning Solutions first published 1994 and reprinted 1995 ISBN 1 86399 047 X

TAPES TO BE ORDERED

Who to contact	Name of Video Tape	Author & Publisher
Mr Craig McDonald The Coordinator Aboriginal Hearing Program PO Box 40596 CASURARINA NT 0811 PH; 08 89992929 Fax: 08 89992955	Blow not Wipe	NT Aboriginal Hearing Program "Health Ears Project" David Nixon 522615 Video Production
Mr Craig McDonald The Coordinator Aboriginal Hearing Program PO Box 40596 CASURARINA NT 0811 PH; 08 89992929 Fax: 08 89992955	"Hearing is for Life"	Northern Territory Hearing Program
T'ville Aboriginal & Islander Media Assoc For Aboriginal & TI Ed Support Centre Ph: 4775 6055 Fax: 4725 3463	Binung Talinga, Let's Hear It For Education Ms Thompson	Aboriginal & Torres Strait Islander Ed Support Centre, funded by National Aboriginal Education Policy (NAEP) March 1996

Panphlets

Who to contact	
Australian Hearing Cairns Commonwealth Centre 107 Lake Street CAIRNS QLD 4870 Ph: 4052 5688	Australian Hearing Cnr Walker & Stnaley Streets TOWNSVILLE QLD 4810 Ph: 4771 5905
Dorothy Moore Fluctuating Conductive Hearing Loss Parent Committee PO Box 148 GARDENVALE VIC 3184	

A WHOLE COMMUNITY APPROACH TO OTITIS MEDIA (OM) - REDUCING ITS INCIDENCE AND EFFECTS

RESOURCE KIT

CONTENTS

Materials prepared by project team

2 x Resources for Health Hearing Curriculum, Unit

2 x If you can't hear well You can't learn well. Booklet adopted from the Qld Health Dept. Pamphlet Runny Ears: Western Australian Health Dept.

2 x Our Health Ears Book. Written by Di Ruddell thanks to the Peachey Family Handout: Fluctuating Conductive hearing Loss: The Hidden Barrier to the Learning and Personal Growth of the Child.

Big Books

No. 1 A School Exercise Program Health Kids - developed and used at Maningunda Community Education Centre.

No. 2 Hear Well! Live Well! Pictures and text adopted from the Northern Territory Aboriginal Hearing Program - Ear Resource Book

Black & white masters for classroom charts taken from Northern Territory Aboriginal Hearing Program - Ear Resource Book

- Alerting signs
- How to Blow your Nose
- Respiratory System
- Do Not Poke
- Hearing
- Ideas for Posters
- An Alphabet of Activities for Teachers and Students.

Materials prepared are only samples of the many possibilities when using the various resources. Although authors in some instances are not known and we acknowledge your special contribution and thank you.

Posters

Noise Destroys Your Hearing: Australian Hearing

Tips for talking to the hard of hearing - Australian Hearing

Could Your Baby Have An Ear Infection: Queensland Health

Does Your Baby Hear Well? Ask your Hearing Health Worker: Queensland Health.

Ear Chart - Helping People Hear - Australian Hearing

Hear Well, Play Well - Northern Territory Aboriginal Hearing Program

Aboriginal People Helping Aboriginal People - Northern Territory Aboriginal Hearing Program

Sore Ears Can't Hear - Northern Territory Aboriginal Hearing Program

DATA COLLECTION OF INFORMATION ON THE MEDICAL CONDITION OF OTITIS MEDIA, HEALTH CONSEQUENCES AND LEARNING IMPLICATIONS OF THE ASSOCIATED CONDUCTIVE HEARING LOSS.

An example of a way to make more attractive booklets, pamphlets from booklets to be used as charts or posters.

1. *Glue Ear*

2. *White master copy*

3. *Grommets*

4. *White master copy*

5.. *Australian Hearing - roles, responsibilities and contacts*

- ***Set of cards distributed by Australian Hearing that can be provided to parents or students for further information, used for displays or utilised as reading comprehension in contract systems.***

Noise destroys your hearing
- Understanding hearing loss
- Hearing tests and audio grams
- How do we hear
- Annoying noise
- Reducing the noise
- FM Sound Field Amplification
- Hearing Loss in Australia
- Engineering Noise Control
- Otitis Media
- Hearing Protectors
- Caring for your ears
- Tips for talking to people who are hard of hearing
- Damage your hearing and it won't come back.

Coloured Handouts

- Middle ear infections and grommets
- FM Sound Field Amplification
- Audiologist? What's that!
- Frequency and Intensity of Familiar Sounds -
- Earache - Ear, Nose and Throat- Earache, Self Care Pharmacy

Our gratitude to Angus and Wendy from Australian Hearing, Cairns District and members of the Australian Hearing Townsville Team.

8. *Newsletters*

   Newsletters from Craig McDonald, Coordinator, Northern Territory Aboriginal Hearing Program e.g. Listen LearnVol,1 No. 4, (1997) & Vol.3 No. 2, (1999)

   Newsletter booklets Australian Hearing -
   - Getting off to an early start. Issue 2, (1999) and
   - Listen In (1999)

9. *Balloons*

10. *Stickers*

A Comprehensive Otitis Media Database and Human Resources

A user friendly resource about Otitis Media - produced by the Aboriginal and Torres Strait Islander Education Centre (there are some difficulties with the disc). The folder is a hard copy of the information on the computer software. Data needs to be continually updated as in many cases people have moved on.

Booklet format:

Yellow divider page - Human Resources

Purple divider page - Database including research articles classroom strategies intervention, identification and ongoing management.

Binung Talinga

Lets Hear It for Education. Community awareness raising package. Complied by Aboriginal and Torres Strait Islander Support Centre, Townsville 1995.

(i) Video - inappropriate for urban and island communities - use with caution and discretion

(ii) Teachers Workshop Black Line - Masters

(iii) Community Workshops Black Line - Masters

(iv) Community Booklet for photocopying and distribution

(v) Teacher Information Booklet for photocopying and distribution

Books for school staff, community personnel, health and medical representatives.

1 Otitis Media and Aboriginal Children - A Handbook for Teachers and Community - excellent knowledge base which acts as a framework for practices which follow in the classroom with an array of practical useable strategies. The bibliography provides an excellent diverse array of literature and research to extend knowledge and skills. (Our thanks to Bev Mulholland)

2 The Northern Territory Hearing Program - Ear Resource Book. A very good model which can be used across all classrooms introducing specific programming to be implemented in classrooms. Content can easily become written into a curriculum unit to empower students, invite special guests from health, education and medicine. Some caution in using some pages simply as black line masters for busy work - join the colours, dot to dot and colour.

3 Listening and Speaking Classroom Games to Play. Northern Territory Hearing Program.

A photocopied version is also included because of the valuable nature of this resource.

4 Aboriginal Teacher Manual: Healthy Ears Hear Better - Northern Territory Aboriginal Hearing Program.

5 Reading With Your Child - Northern Territory Aboriginal Hearing Program 1995.

6 A School Exercise Program: Healthy Kids - Maningrida Community Education Centre, Northern Territory.

Parent handouts, just for classroom and prospectus examples.

1. Conductive Hearing Loss, compiled from various sources by Advisory Visiting Teacher, North Western, Elissa Cramb.

2. We Hear You: Australian Hearing (Resource)

3. NSW Otitis Media Strategic Plan for Aboriginal Children: NSW Health. (Prospectus)

4. To Be Good at Health - celebrating the 1993 International Year for the World Indigenous People by Margery Hornibrook with the assistance from State and Territory Ministries of Education and the Federation of Aboriginal Education Consultative Groups.

5. Healthy Little Ears - Kit from PrintWest, Western Institute of TAFE, Orange Campus NSW 2800

Videos

Hearing is for Life - Northern Territory Aboriginal Hearing Program.
Blow Not Wipe - Northern Territory Aboriginal Hearing Program.

Practical Classroom Strategies

This folder contains an array of hints for the classroom teacher when faced with children who have learning difficulties as a consequence of the associated conductive, fluctuating hearing loss.

Professional readings and other such material can be continually added.

Contents

Children with Special Needs - Slow Learners

Utilisation of identifiers which act as the catalyst for intervention. Hints on Teaching Style.

Teaching Strategies

Story of the Week - an excellent article from the New Idea to read to parents.

Kit - Healthy Little Ears includes: Story book, Sniff and Blow at Pre-School; Resource book for teacher - How to run the program and improve respiratory health in children; Handouts for parents; Colouring in activities for children and Merit stickers from PrintWest, Western Institute of TAFE, Orange Campus, Orange NSW 2800.

Classroom Application

This folder contains various resources to be used in the classroom as a general starting point. Yet again this can be continually added to.

1. An Example of My Ear Book by a child at a pilot school.

2. Black line master of the book which links perfectly with the Year 1 Social Studies Unit - Me, and the Science Unit on Senses.

3. Help! I'm Falling Apart - a fantastic book that can be used as an introduction to a unit on Healthy Ears.

Pamphlets - Otitis Media
Incidence
Implication

This folder contains an array of pamphlets gained from various sources.

Special thanks to Aboriginal Hearing Health Team, Aboriginal Health Team, Community Health and Australian Hearing.

These pamphlets can be used for

- seeking information
- a generic model for the pamphlets genre in language
- comprehension activities
- critical reflection - what gets the best messages across?
- the use of drawings as a means of informing the illiterate
- resources for contact centres and curriculum units

Pamphlets include:

- 3 x Helping children hear - Australian Hearing
- Teachers can your pupils hear you - Dorothy Moore for Australian Conductive Association
- Let's Look at Ears - Health Dept of Western Australia
- Noise - It's murder on your ears! - Australian Hearing
- How Can I Help - Australian Hearing
- Hearing tests & audiograms - Australian Hearing
- Otitis What? - NSW Office of Aboriginal Health
- Fluctuating Conductive Hearing Loss. They can't hear when they want to - Dorothy Moore - Gil Best
- How Well Does Your Child Hear? - Hearing Problems in Children are Not Always Obvious - Australian Hearing
- The Commonwealth Hearing Services Program: Commonwealth of Health Aged Care - Office of Hearing Services
- Damage your hearing and . . . it won't come back - Australian Hearing
- Mater Infant Hearing Program - providing a neonatal hearing assessment to the Mater Mothers Hospital and the state service wide community
- Where to From Here - Australian Hearing
- Helping Aboriginal children hear better - Northern Territory Aboriginal Hearing Program.
- Otitis Media - What is it? Who gets it? Does is cause deafness? What are the classroom implications? What should a teacher do?

Supporting Health For Aboriginal And Torres Strait Islander Communities.

Materials included:

1 Aboriginal & Islander Health Program

2 Making the Most of a visit to your health care service

3 Exercise and Your Heart - Heart Foundation

4 Community Health Services - Townsville Health Service District

5 Aboriginal & Torres Strait Islanders Resources - addresses where staff or students can write away to access resources

6 Queensland Public Patients Hospital Charter - Qld Health

7 Growing up with Young People - A booklet for Parents 1999 - Youth Link

Professional Reading

1 Developing a Sound Knowledge and Skill Base Fluctuating, Conductive Hearing Loss - Otitis Media - Dianne Ruddell

2 A Whole Community Approach to Otitis Media - Reducing its Effects - Dianne Ruddell.

3 Otitis Media and Australian Aboriginal Children: The influence of Conductive Hearing Loss in the Classroom - Anne Lowell.

4 Mild Hearing Loss and Aboriginal Children's Learning - Damian Howard

5 Conductive Hearing Loss and the Aboriginal Child at School - Australian Teacher of the School

6 Web sites